

May 21, 2024



# Upper Mississippi River Basin Association

## 170th Quarterly Meeting

**Agenda**  
with  
Background  
and  
Supporting  
Materials

**Hotel Blackhawk  
Davenport, Iowa**

**Agenda**  
**May 21, 2024**

<b>Time</b>	<b>Topic</b>	<b>Presenter</b>
9:30 a.m.	Call to Order and Introductions	Grant Wilson, <i>Minnesota DNR</i>
9:40	A1-9 Approval of Minutes of February 27, 2024 Meeting	
9:45	B1-22 Executive Director's Report	Kirsten Wallace, <i>UMRBA</i>
9:50	F1-40 Principles, Requirements, and Guidelines <ul style="list-style-type: none"> <li>▪ USACE Agency Specific Procedures</li> </ul>	Robyn Colosimo, <i>OASA(CW) Office</i>
10:20	Flood Risk Reduction and Resilience Planning <ul style="list-style-type: none"> <li>▪ Downscale Hydroclimatic Modeling Predictions</li> </ul>	Zachary McEachran, <i>NOAA NWS</i>
	D1-3 <ul style="list-style-type: none"> <li>▪ Upper Mississippi River System Flow Frequency Study</li> </ul>	Scott Whitney, <i>USACE</i>
10:50	Break	
11:10	E1-3 Navigation and Ecosystem Sustainability Program <ul style="list-style-type: none"> <li>▪ Status Report and Outlook</li> <li>▪ Estimated Costs of Navigation Program</li> <li>▪ Inland Waterways Navigation Construction Capital Investment Strategy</li> <li>▪ Navigation Industry Perspectives</li> </ul>	Andrew Goodall, <i>USACE</i> Michael Tarpey, <i>USACE</i> Paul Rohde, <i>Waterways Council</i>
12:00 noon	Lunch	
1:00 p.m.	C1-4 USFWS Upper Mississippi River System Refuge System	Sabrina Chandler, <i>USFWS</i>
1:30	USACE Mississippi Valley Division	Brig. Gen. Kimberly Peebles, <i>USACE MVD</i>
1:50	G1-5 Wetlands Restoration <ul style="list-style-type: none"> <li>▪ ASA(CW) Policy Memorandum</li> <li>▪ State Reports</li> </ul>	Lauren Leuck, <i>ASA(CW) Office</i>
2:20	Break	
2:40	Federal Fiscal Reports	<i>UMRBA Federal Liaisons</i>
3:20	H1-8 Administrative Issues <ul style="list-style-type: none"> <li>▪ FY 2025 Budget</li> <li>▪ Future Meeting Schedule</li> </ul>	
3:30 p.m.	Adjourn	

# **ATTACHMENT A**

## **Minutes of the February 27, 2024** **UMRBA Quarterly Meeting**

*(A-1 to A-9)*

**Draft  
Minutes of the 169th Quarterly Meeting  
of the  
Upper Mississippi River Basin Association**

**February 27, 2024  
Virtual**

Rick Pohlman called the meeting to order at 9:05 a.m. Participants were as follows:

UMRBA Representatives and Alternates:

Rick Pohlman	Illinois Department of Natural Resources
Loren Wobig	Illinois Department of Natural Resources
Chad Craycraft	Illinois Department of Natural Resources
Tim Hall	Iowa Department of Natural Resources
Jake Hansen	Iowa Department of Agriculture and Land Stewardship
Grant Wilson	Minnesota Department of Natural Resources
Patrick Phenow	Minnesota Department of Transportation (Virtual)
Chris Wieberg	Missouri Department of Natural Resources
Chris Klenklen	Missouri Department of Agriculture
Matt Vitello	Missouri Department of Conservation
Wade Strickland	Wisconsin Department of Natural Resources

Federal UMRBA Liaisons:

Thatch Shepard	U.S. Army Corps of Engineers, MVD (on behalf of Brain Chewning)
Mark Gaikowski	U.S. Geological Survey, Midcontinent Region (Virtual)
Sabrina Chandler	U.S. Fish and Wildlife Service
Richard Vaughn	U.S. Department of Agriculture, Natural Resources Conversation Service

Others in Attendance:

Kirk Hansen	Iowa Department of Natural Resources
John Seitz	Illinois Department of Natural Resources
Brian McCoy	Illinois Department of Transportation
Amy Kendig	Minnesota Department of Natural Resources
Grace Loppnow	Minnesota Department of Natural Resources
Kelly Pennington	Minnesota Department of Natural Resources
Vanessa Perry	Minnesota Department of Natural Resources
Ken Henderson	Missouri Department of Agriculture
John Frederick	Missouri Department of Natural Resources
Brenda Kelly	Wisconsin Department of Natural Resources (Virtual)
Sammi Boyd	Wisconsin Department of Natural Resources (Virtual)
Mike Halsted	Wisconsin Department of Transportation, Harbors, and Waterways (Virtual)
Thatch Shepard	U.S. Army Corps of Engineers, Mississippi Valley Division
Jim Cole	U.S. Army Corps of Engineers, Mississippi Valley Division

LeeAnn Riggs	U.S. Army Corps of Engineers, Mississippi Valley Division
Samantha Thompson	U.S. Army Corps of Engineers, Mississippi Valley Division
Trevor Cyphers	U.S. Army Corps of Engineers, St. Paul District
Angela Deen	U.S. Army Corps of Engineers, St. Paul District
David Potter	U.S. Army Corps of Engineers, St. Paul District
Nathan Wallerstedt	U.S. Army Corps of Engineers, St. Paul District
Kyle Bales	U.S. Army Corps of Engineers, Rock Island District
Rachel Hawes	U.S. Army Corps of Engineers, Rock Island District
Andrew Goodall	U.S. Army Corps of Engineers, Rock Island District
Marshall Plumley	U.S. Army Corps of Engineers, Rock Island District
Davi Michl	U.S. Army Corps of Engineers, Rock Island District
Greg Kohler	U.S. Army Corps of Engineers, St. Louis District
Joan Stemler	U.S. Army Corps of Engineers, St. Louis District
Brian Markert	U.S. Army Corps of Engineers, St. Louis District
Jake Greif	U.S. Environmental Protection Agency, Office of Water
Whitney King	U.S. Environmental Protection Agency, Office of Water
Amy Shields	U.S. Environmental Protection Agency, Region 7
Dane Boring	U.S. Environmental Protection Agency, Region 7
Anthony Civiello	U.S. Environmental Protection Agency, Region 7
David Pratt	U.S. Environmental Protection Agency, Region 7
John Winter	U.S. Fish and Wildlife Service, UMR Refuges
Steve Winter	U.S. Fish and Wildlife Service, UMR Refuges
Matt Mangan	U.S. Fish and Wildlife Service, UMR Refuges
Kraig McPeck	U.S. Fish and Wildlife Service, Illinois-Iowa Field Office
Heidi Keuler	U.S. Fish and Wildlife Service, Illinois-Iowa Field Office
Lauren Larson	U.S. Fish and Wildlife Service, Illinois-Iowa Field Office
Sara Schmuecker	U.S. Fish and Wildlife Service, Illinois-Iowa Field Office
David Dupre	U.S. Geological Survey, Central Midwest Water Science Center
Christopher Churchill	U.S. Geological Survey, Upper Midwest Environmental Sciences Center
Jim Fischer	U.S. Geological Survey, Upper Midwest Environmental Sciences Center
Mike Welvaert	National Oceanic and Atmospheric Administration, NWS
Madeleine Castle	Senator Josh Hawley Office (Missouri)
John Flesher	Associated Press
Lindsay Brice	Audubon
Anshu Singh	Corn Belt Ports
Gary Loss	HNTB
Jill Crafton	Izaak Walton League
Madeline Heim	Mississippi River Ag and Water Desk/Milwaukee Journal Sentinel
Thomas Shepherd	National Waterways Conference
Kim Schneider	<i>Our Mississippi</i>
Doug Blodgett	The Nature Conservancy
Bryan Hopkins	The Nature Conservancy
Randy Smith	The Nature Conservancy
Cheyenne Young	The Nature Conservancy
Jen Armstrong	Waterways Council, Inc.
Paul Rohde	Waterways Council, Inc.
Kirsten Wallace	Upper Mississippi River Basin Association
Brian Stenquist	Upper Mississippi River Basin Association

Mark Ellis	Upper Mississippi River Basin Association
Sam Hund	Upper Mississippi River Basin Association
Natalie Lenzen	Upper Mississippi River Basin Association
Ken Peterson	Upper Mississippi River Basin Association
Lauren Salvato	Upper Mississippi River Basin Association
Andrew Stephenson	Upper Mississippi River Basin Association

**Minutes**

Chris Wieberg moved and Grant Wilson seconded a motion to approve the draft minutes of the October 24, 2023 UMRBA quarterly meeting as provided in the agenda packet. The motion was approved unanimously.

**Executive Director’s Report**

Kirsten Wallace pointed to the Executive Director’s report in the agenda packet for a summary of the Association’s work efforts since the October 2023 meeting. Wallace elaborated on the following key events and UMRBA products:

- UMRBA has invested considerable staff resources advocating for UMRBA’s priorities in the forthcoming Water Resources Development Act as well as the 2024 and 2025 federal appropriations measures.
- The National Waterways Foundation and Waterways Council released renewed economic profiles of the inland waterways for states that border the rivers. The reports are accessible here: <https://nationalwaterwaysfoundation.org/foundation-studies/economic-impact-by-state>.
- On January 9, 2024, UMRBA published the report titled, *How Clean is the River?* The report finds that water quality between 1989 and 2018 has generally improved, while there are pollutants of concern that have varying trends. The results support UMRBA’s current focus on nutrients, chloride, and emerging contaminants as well as unified, Clean Water Act-focused monitoring on the river. the report is available here: <https://umrba.org/howcleanriver>
- UMRBA is partnering with the University of Minnesota Institute on the Environment (IonE) and the National Weather Service as they combine several existing models into downscale hydroclimatic predictions for the Upper Mississippi River basin. As a partner to them, UMRBA convened three facilitated meetings during November 2023 and December 2023 to increase the usability of the hydroclimatic forecasts and identify effective product delivery mechanisms to facilitate usability of hydroclimatic forecasts.

*UMRBA Personnel Manual*

Wallace reported that the UMRBA Board has established a renewed organizational structure and compensation system for the Association. On behalf of the Association’s staff, Wallace expressed gratitude to the Board for better positioning the Association to maintain our strong team of staff and to grow our team. On February 22, 2024, Wallace submitted to the Board a revised draft Personnel Manual capturing the renewed compensation rates as well as the Board’s new established processes for annual reviews and adjustments. In response, Wade Strickland moved and Chris Weiberg seconded a motion to

amend UMRBA's Personnel Manual in accordance with the annotated version provided to the Board on February 22, 2024 by Wallace. The motion was approved unanimously.

#### *UMRBA Administrative Protocols*

Wallace explained that UMRBA has long held informal protocols for accounting of the Association's i) equipment and ii) grants, cooperative agreements and contracts. In the recent process of finalizing a cooperative agreement, USEPA requested formal documentation of the Board's approval of these protocols. In response to Wallace's request, Tim Hall moved and Grant Wilson seconded a motion to accept the proposed administrative protocols related to equipment and grants, cooperative agreements, and contracts as provided to the Board on February 22, 2024 by Kirsten Wallace. The motion was approved unanimously.

#### *UMRBA Financial Report*

Wallace pointed to UMRBA's October 2023 through December 2023 financial statements provided on pages B-9 to B-17 of the agenda packet. Chris Wieberg moved and Wade Strickland seconded the motion to accept the Association's budget report and balance sheet as included in the agenda packet. The motion was approved unanimously.

#### *UMRBA Board Chair Rotation*

Kirsten Wallace thanked Rick Pohlman for his service as Board Chair over the past year. Chris Wieberg moved and Tim Hall seconded a motion to nominate Grant Wilson to serve as UMRBA Chair, Wade Strickland to serve as UMRBA Vice Chair, and Jason Tidemann to serve as UMRBA Treasurer. The motion for all three nominations carried unanimously by voice vote.

#### **Interbasin Diversion Consultation**

Kirsten Wallace explained that the Governors' 1989 Upper Mississippi River Basin Charter sets forth a notification and consultation process for any new or increased water diversion out of the basin that would exceed an average of 5 million gallons per day during any 30-day period. At their February annual meetings, UMRBA members are to report on any qualifying diversion requests. The UMRBA member states reported as follows:

Illinois	—	Rick Pohlman	—	no diversions to report
Iowa	—	Tim Hall	—	no diversions to report
Minnesota	—	Grant Wilson	—	no diversions to report
Missouri	—	Chris Weiberg	—	no diversions to report
Wisconsin	—	Wade Strickland	—	no diversions to report

Pohlman directed Kirsten Wallace to send letters to the Governors reporting the results of the annual diversion consultation.

## Upper Mississippi River Basin Hydrologic Outlook

Mike Welvaert provided an outlook for the potential of spring flooding or drought in the Upper Mississippi River and in the watershed in spring 2024. Welvaert announced that NWS North Central River Forecast Center published the spring outlook in a storymap, linked here:

<https://storymaps.arcgis.com/stories/746318e235604583934a78c639e19946>. Welvaert highlighted key messages from the outlook.

## Navigation Water Level Forecasting in the St. Louis District

Joan Stemler presented an overview of low water conditions and operations in the St. Louis District. In summer 2024, the Mississippi River surpassed 10 daily low water level records at the St. Louis gage and 20 daily low water level records (occurring consecutively) in September. Stemler reported on the St. Louis District's low water operations, particularly in the including related to the approved deviation to hold the Mel Price pool to 0.5 feet above the maximum regulated pool. The extra water storage can be used to provide a pulse of water to free grounded tows, if necessary. The Corps will incorporate these low-water operations into the District's Water Control Manual. Stemler discussed planned actions should low water conditions continue.

## Inland Waterway Trust Fund

Jen Armstrong provided an overview of the status and projections of the Inland Waterways Trust Fund (IWTF), which provides a 35 percent cost-share match to the new construction and major rehabilitation of inland waterways projects. Between FY 2014 to 2023, seven lock replacement projects were funding through regular appropriations; 90 percent of the appropriated funding were consumed by four projects, three of which are ongoing today. The Infrastructure Investment and Jobs Act (IIJA) started two new inland waterways construction projects, including L&D 25.

The cumulative authorized costs of the ongoing projects and cost overruns of several projects that were intended to be fully funded in the IIJA is \$3.13 billion. However, cost overruns for several reasons has increased the estimated costs for the projects to \$7.84 billion. Accounting for funds received, the remaining costs to complete the ongoing projects is \$2.61 billion. Armstrong noted that these costs are anticipated to continue to increase. As an example, the current estimated cost of L&D 25 is listed as \$1.5 billion, however that cost will need to be adjusted upward given the Administration's decision not to allow for early contractor involvement and continuing contracts.

Armstrong explained that the \$2.61 billion balance exceeds the capacity of the IWTF's reserves. If the Corps received \$290 million annually for inland navigation construction projects, it would take 9 years to fund the known remaining costs for all ongoing construction projects. Incremental funding and long project implementation timelines increase overall project cost and delays the benefits of the project.

Armstrong put forward that there is no capability for NESP lock modernization projects in FY 2025 that can be supported with what is available in the IWTF given the other inland navigation construction needs. No new starts can be accommodated until some of the ongoing projects are completed. The impact of starting new projects is that the costs for all inland navigation projects be on the order of magnitude of new construction project at Olmstead L&D, which cost over \$3 billion.



Armstrong explained the Waterways Council's request to Congress that the construction cost share for inland waterways projects funded by the IJA to remain fully federally funded. Waterways Council remains committed to defending against adverse initiatives, such as user fees or taxes, to resolve the discrepancy between revenues to the IWTF and the cost-share expense demands.

In follow up to a question from Brian Stenquist, Armstrong explained that Corps Headquarters is renewing the inland navigation capital investment strategy. The strategy shall provide a near-term and 10-year implementation schedule with anticipated costs in each year.

### **Upper Mississippi River Restoration Program**

Marshall Plumley said UMRR has received \$55 million in FY 2023 for the first time and anticipates receiving that same appropriation in FY 2024. The program has the potential to expand further following Congress's action in WRDA 2022 that increased its annual authorized appropriation to \$90 million – i.e., \$75 million for HREPs and \$15 million for LTRM. Plumley applauded the partnership for this recognition by Congress.

Plumley reported on several ongoing efforts, including strategic planning, LTRM implementation planning, planning for a UMRR workshop, HREP selection, and topobathy acquisition. Plumley reviewed the ongoing implementation of HREPs in each of the three UMR Corps Districts. Plumley elaborated on the topobathy acquisition; the vision is for a systemic acquisition of critical elevation datasets to allow partners and resource managers to better study the priority science, restoration, and management needs of the UMRS.

### **Navigation and Ecosystem Sustainability Program**

Andrew Goodall provided an update on the progress of NESP in advancing programmatic activities, hosting groundbreaking, and advancing the navigation and ecosystem projects. NESP currently has 18 ongoing projects; 18 projects are ecosystem-related investments and 13 are navigation-related investments. Highlights are as follows:

- *L&D 22 fish passage*: Design for the entire project is scheduled to be completed in April 2024. A construction award is planned to occur before September 2024. Pre-construction monitoring continues that will inform adaptive management goals.
- *L&D 25 1,200-foot chamber*: Design work for L&D 25 is anticipated to be complete in June 2026. Following the decision not to allow for early contractor involvement/continuing contractors, the Corps has recently segmented the design into smaller packages for bulkheads and other advance items. Phase 1 construction contract is scheduled to be completed in 2024. The bulkhead fabrication contract was awarded just yesterday – i.e., February 26, 2024. Goodall confirmed that the certified total project cost for L&D 25 will be released soon.
- *La Grange L&D 1,200-foot chamber*: The design of the addition of a 1,200-foot lock chamber at La Grange L&D is anticipated to be completed in FY 2026. The Corps is scheduled to complete the 35 percent design phase in the 2024 calendar year.

In response to a question from Rick Pohlman, Goodall confirmed that the Corps is prepared with smaller construction packages for the La Grange L&D project for when there are funding opportunities.

## **Minnesota Invasive Carp Management**

Kelly Pennington explained that the migration of invasive carp upstream on the Mississippi River into Minnesota waters is facilitated by high water events, particularly in 2019 and 2023. Data collected from captured invasive carp suggest that the invasive carp were produced downstream. More than 40 tagged fish were tracked moving into Minnesota past open dams during 2023 flooding. Pennington pointed out that, which lock deterrents can help reduce invasive species passage through the lock, invasive carp can still migrate through the lock spillways when the gates are open (and the gates are opened during flooding).

Minnesota DNR has been actively managing invasive carp since the early 2000s through a variety of means. Pennington announced that, in addition to various state and federal funding sources, the Minnesota Lessard-Sams Outdoor Heritage Council allocated \$12 million to a carp barrier on the Mississippi River at L&D 5.

In 2024, Minnesota DNR updated its invasive carp management action plan in light of increased captures of invasive carp (associated with high water events) and new technologies, methods, and knowledge. The Minnesota DNR employed a structured decision making process that was facilitated by USGS and involved technical experts and stakeholders from more than 12 organizations. Minnesota DNR concluded that no one action is sufficient to prevent and manage invasive carp. Pennington described the 2024 action plan's five key elements and the associated actions. The key elements are monitoring to support response actions, prevention and deterrence, response preparation, management and control, and communication, outreach, and coordination.

Rick Pohlman and Wade Strickland expressed appreciation for the briefing and acknowledged similar challenges within their respective states. In response to a question from Strickland about selective deterrents, Grace Loppnow explained that preliminary data indicate that electric barriers have a 90 percent efficacy of deterring invasive carp (without impacting native fish species) and acoustic barriers have a 50 percent efficacy.

In response to a question from Brian Stenquist, Pennington and Loppnow said other invasive species that might warrant interstate, federal-state collaboration are northern snakehead and Prussian carp. In response to a question from Mark Ellis, Loppnow stated that Minnesota DNR is collaborating with USGS to develop a FluEgg model for each Mississippi River pool located in Minnesota. The models should be available by the end of calendar year 2024. In response to a question from Loren Wobig, Loppnow said the University of Minnesota – Duluth is researching the efficacy of carbon dioxide as a deterrent to invasive carp migration. It is not as selective to invasive carp but is still being considered as a deterrent tool.

In response to a question from Jill Crafton, Loppnow explained that Minnesota DNR is focusing this year on modeling potential reproduction areas as a means for informing work decisions (e.g., disrupting spawning), collecting monitoring data, and evaluating the efficacy of deterrent options that are selective to native fish or that optimize flow through spillway gates. Pennington added that Minnesota DNR is coordinating with the Corp for design and engineering expertise on a potential deterrent at L&D 5.

## **Minnesota Wetlands Status and Trends**

Amy Kendig provided contextual information of Minnesota's wetlands loss from 1800 to 1984 (about 50 percent statewide and 18 percent occurring in the Prairie Pothole Region) and wetlands protection

regulations in Minnesota. The Minnesota Wetland Conservation Act of 1981 created a “no-net loss” policy for wetlands. Kendig explained that the quantity and extent of wetlands challenging to assess and track for multiple reasons.

Minnesota DNR created a wetlands status and trends monitoring program that was modeled from USFWS’s wetlands monitoring. Since 2006, Minnesota has been monitoring 1,200 – 3,750 one-square mile plots every three years. This sample is extrapolated to estimate statewide status and trends.

Minnesota DNR’s monitoring data suggests that the drivers for change in wetlands quantity and extent are occurring because of restoration, filling or drainage, excavation or inundation, beaver activities, landslides, and stream accretion or movement. Indirect factors include subsurface tile drainage (without visual evidence), long term climate change, and lowered ground table levels.

The recent monitoring observed a net gain of 43,389 acres of wetland area between 2006 and 2020. Kendig provided more detail information about the gains and losses per wetland type and sources of the gains or losses. The gains in wetlands area has significantly increased during the latest monitoring cycle- i.e., approximately 25,900 acres from 2015 to 2020.

Kendig concluded that, over a 15-year period, Minnesota gained more wetlands than it lost and wetland losses have generally declined over time. Direct gains increased with more antecedent precipitation. Minnesota DNR is interested in explore the reason for that. Does more precipitation initiate wetland creation or restoration? Does more precipitation make wetland creation or restoration more obvious? Or is there a another or different reason?

### **Gulf Hypoxia Program**

#### *Hypoxia Task Force 2023 Report to Congress*

Jake Greif provided an overview of the Mississippi River/Gulf of Mexico Hypoxia Task Force, including its origins, scope, action plans, and goals.

Graif reported that, on November 30, 2023, USEPA transmitted to Congress the most recent report on the River/Gulf of Mexico Hypoxia Task Force. The report is available at the following web link: [https://www.epa.gov/system/files/documents/2023-11/10305\\_2023-htf-report-to-congress\\_508.pdf](https://www.epa.gov/system/files/documents/2023-11/10305_2023-htf-report-to-congress_508.pdf).

Graif welcomed partners to explore the USEPA’s web page for the Task Force (<https://www.epa.gov/ms-htf>). Monthly newsletters for the Task Force are available at <https://www.epa.gov/ms-htf/hypoxia-task-force-newsletters>. The web page includes a link to sign up for receiving the newsletters to individual emails.

#### *UMR Sub-Basin Committee Work Plan*

Lauren Salvato reported that USEPA approved UMRBA’s work plan for supporting the Hypoxia Task Force Upper Mississippi River Sub-Basin Committee, including the following tasks:

- Create an integrated Upper Mississippi River Nutrient Reduction Strategy, compiling separate state nutrient reduction strategies and identifying important interstate actions.

- Develop an Upper Mississippi River Basin Nutrient Reduction Adaptive Management Framework, evaluating implementation of important interstate actions to reduce nutrient pollution in the Upper Mississippi River and incorporating insights into ongoing implementation efforts.
- Create an Upper Mississippi River Interstate Communications Strategy, communicating with stakeholders and other actors in the basin about important interstate actions and to gain their commitment to ongoing implementation efforts.
- Maintain and enhance interstate collaboration by supporting the HTF Sub-Basin Committee, including its various work teams.
- Integrate important interstate actions for reducing nutrient pollution in the Upper Mississippi River with other important interstate actions such as flood mitigation and resilience planning.

### **Other Business**

#### *Future Meeting Schedule*

May 2024 in Davenport, Iowa

- UMRBA Quarterly Meeting – May 21
- UMRB Coordinating Committee quarterly meeting – May 22

August 2024 in St. Paul, Minnesota

- UMRBA Quarterly Meeting – August 6
- UMRB Coordinating Committee quarterly meeting – August 7

November 2024 in St. Louis, Missouri

- UMRBA Quarterly Meeting – November 19
- UMRB Coordinating Committee quarterly meeting – November 20

With no further business, the meeting adjourned at 2:25 p.m.

# ATTACHMENT B

## Executive Director's Report

- Executive Director's Report *(B-1 to B-7)*
- UMRBA FY 2025 USACE Appropriations Priorities Letter *(5/2/2024) (B-8 to B-10)*
- Interstate Council on Water Policy's Multi-signatory Letter *(2/23/2024) (B-11 to B-16)*
- Treasurer's Quarterly Statement *(5/6/2024) (B-17)*
- FY 2024 Profit and Loss Statement *(5/7/2024) (B-18 to B-20)*
- Balance Sheet *(5/7/2024) (B-21 to B-22)*



## **Executive Director's Report May 2024**

### **Advocacy**

#### *FY 2025 Appropriations*

UMRBA has submitted to the Congress the following FY 2024 appropriations requests: \$187 million for the Navigation and Ecosystem Sustainability Program (NESP), \$55 million for the Upper Mississippi River Restoration (UMRR) program, \$1.835 million for a UMR flow frequency study. In addition, UMRBA called for full utilization of the Inland Waterways Trust Fund available monies and full funding of the Corps' capability to maintain the 9-foot navigation channel on the Upper Mississippi River System. UMRBA submitted appropriations requests through members' online portals, letters to individual member offices in support of those requests, and letters to the House and Senate Appropriations Committees.

An updated appropriation request letter which includes the initial letter addressed to the Senate Appropriations Committee is provided on pages B-8 to B-10 of the agenda packet. This letter includes an appropriation request of \$50 million for NESP to implement ecosystem-related projects and programmatic activities. In response to the Corps capability estimate provided to Congress, UMRBA updated its support for that capability estimate of \$62 million for navigation-related investments and \$125 million for ecosystem-related investments.

UMRBA, staff joined by UMRBA Board members Loren Wobig and Wade Strickland, met with USACE Civil Works Director Eddie Belk and USACE Headquarters leadership to convey these priorities and provide UMRBA's perspective on the needs and opportunities for partnership implementation.

UMRBA joined the Interstate Council on Water Policy's multi-signatory letter, dated February 23, 2024, to the House and Senate Appropriations Committees requesting FY 2024 appropriations of \$33 million for USGS federal priority streamgages, \$68 million for USGS Cooperative Matching Funds (including \$33 million for streamgage support), and \$35 million for Next Generation Water Observing System and data delivery modernization. The letter to the House Appropriations Committee provided on pages B-11 to B-16 of the agenda packet.

### **Commercial Navigation**

#### *Inland Waterways Users Board*

UMRBA staff attended the April 11, 2024 Inland Waterways Users Board (IWUB) meeting in Springfield, Virginia. The meeting included routine updates of the Inland Waterway Trust Fund, USACE navigation program fiscal status, and ongoing navigation projects that are cost-shared using the Inland Waterway Trust Fund monies. As part of the latter report, the Rock Island and St. Louis Districts reported on the L&D 25 and La Grange lock modernization projects. Additionally, the Mississippi Valley Division reported on its low water actions in 20223 on the Mississippi River.

#### *U.S. Department of Agriculture NESP L&D 25 Event*

On May 3, 2024, the U.S. Secretary of Agriculture Secretary Tom Vilsack was joined by U.S. Assistant Secretary of the Army for Civil Works Michael Connor, U.S. Congresswoman Nikki Budzinski (D-IL-13), National Corn Growers Association, and Soybean Growers Association in highlighting the investments

secured for the Navigation and Ecosystem Sustainability Program from the Biden-Harris Administration's Infrastructure Investments and Jobs Act. Secretary Vilsack will also highlight other Biden-Harris Administration efforts to help U.S. agricultural exporters and producers strengthen their presence in existing markets and open new market opportunities around the world, as well as strengthen local and regional supply chains in the states along the Mississippi River and across the country.

## **Ecosystem Health**

### *Native American Fish and Wildlife Society*

UMRBA staff attended the Native American Fish and Wildlife Society National Conference in Welsh, Minnesota on May 14-16, 2024. The conference theme is "Sovereignty to Sustainability – Echoing our Elders and Nurturing our Next Seven Generations." Select agenda topics related to fisheries management, climate, biodiversity, tribal ecological knowledge, wildlife management, threatened and endangered species, and federal partnerships.

### *Policy and Programmatic Interagency Coordination*

#### UMRR Coordinating Committee Meeting

The UMRR Coordinating Committee met on February 28, 2024 virtually. The agenda involved programmatic briefings regarding accomplishments and progress related to habitat rehabilitation and enhancement projects (HREPs), long term resource monitoring, and communications. The Committee also convened a facilitated exercise to get input to UMRR's next strategic planning process.

#### NESP Coordinating Committee Meetings

The Navigation and Ecosystem Sustainability Program (NESP) Coordinating Committee met in-person on March 21, 2024 in the Quad Cities. In addition to this public-facing session, the Committee also convenes monthly meetings to advance programmatic priorities. Recent discussions have focused on a strategic planning framework and systemic and reach planning.

### *Programmatic Strategic Planning*

#### Upper Mississippi River Restoration Program

The UMRR Coordinating Committee convened meetings to refine a process for developing the next strategic plan for UMRR. With advice from an "independent" facilitator, an interagency team of program leaders will determine a planning process and scope. The leadership team has agreed that the process shall employ a robust public participation, including through UMRR Coordinating Committee quarterly meetings, for exploration, discussion, review, and feedback on emerging ideas.

#### Navigation and Ecosystem Sustainability Program

An *ad hoc* group of the Navigation and Ecosystem Sustainability Program Consultation Committee is developing a framework to guide the purpose, objectives, and process for strategic planning. UMRBA staff are participating in the *ad hoc* group.

## *Communications*

### Communications and Outreach Team

UMRBA staff participated in the UMRR Communication and Outreach Team's (COT) March 4, 2024 and April 3, 2024 meetings. Topics included employing a photo contest, social media events, and updating UMRR related material at current kiosks/interpretive stations along the UMRS.

## *Ecological Sustainability and Restoration*

### UMRR Workshop

On May 7-9, 2024, UMRR convened a workshop to bring together partners who work on, and participate in, the program's habitat rehabilitation and enhancement projects and long term resource monitoring efforts. Participants considered ways to improve restoration techniques in light of lessons learned from constructed habitat projects as well as newly learned information about climate change and other factors affecting the health and resilience of the river's ecosystem. The workshop focused on modeling applications to improve decision making across the UMRS, the design of habitat projects, as well as discuss various emerging programmatic efforts, such as advancing environmental justice strategies.

UMRBA is providing meeting design support services for the workshop, working with an *ad hoc* team assembled by the UMRR Program Manager and the UMRR Coordinating Committee.

### Systemic/Reach Planning

UMRBA staff are participating in the Navigation and Ecosystem Sustainability Program's System Planning Team, which is validating system-wide ecosystem objectives and developing a process to guide four reach planning teams in their more refined development of restoration targets.

### UMRBA Floodplain Reconnection Project

With financial support from the USGS Midwest Climate Adaptation Science Center, UMRBA is implementing a project to develop foundational planning and learning objectives that will help facilitate future collaborations between and among efforts to improve i) flood conveyance and storage and ii) ecological processes and functions. As part of the project, on March 28, 2024, UMRBA staff provided a briefing to the Upper Mississippi River Conservation Committee and requested its members input on an initial set of learning questions related to understanding flood conveyance and storage, ecological processes and habitat improvement, water quality enhancement, social equity, and climate change.

## *Interagency Meetings*

UMRBA staff participated in the following meetings:

- Upper Mississippi River Conservation Committee's annual meeting (March 26-28, 2024)
- Monthly meetings of the Navigation and Ecosystem Sustainability Program regarding the ongoing design of eight mooring facilities



## **Hazardous Spills Coordination, Mapping, and Planning**

### *Oil Pollution Act (OPA) Planning and Mapping*

UMRBA staff have completed most of the Wisconsin statewide Inland Sensitivity Atlas (ISA) update and have begun working on Minnesota updates. Staff have completed a new jurisdictional boundary layer for the region. This data will help clarify agency jurisdictions and quicken the establishment of incident command during a response. UMRBA incorporated updates into the regional database that it developed for Wisconsin as well as updates received from the Great Lakes Commission (GLC) for Ohio and Indiana.

Staff participated in monthly Mapping Group meetings on March 4, April 1, and May 6, 2024. Staff also participated in Inland Zone Planning calls on March 21, April 18, and May 16, 2024.

UMRBA provided general support for spill response planning in the Upper Mississippi River, Minneapolis/St. Paul, and Red River sub-areas. UMRBA took part remotely in the Great Rivers Sub-area planning meeting on March 7, 2024. On May 13, 2024, staff participated in a meeting to continue development of a hazardous chemical release exercise to be held in Crookston, Minnesota on June 11, 2024.

UMRBA supported the Regional Response Team (RRT) 5 meetings held at Minnesota PCA in St. Paul, MN on April 30 and May 1, 2024.

### *Upper Mississippi River Hazardous Spills Coordination Group (UMR Spills Group)*

The UMR Spills Group held its spring meeting at Minnesota PCA in St. Paul, MN on May 2, 2024. The Group discussed various response-related planning activities scheduled throughout the next year, including the beginning the development of a response strategy carried out on a barge in the main stem of the Mississippi River.

Staff took part in a Quad Cities spill response exercise planning meeting on April 9, 2024. The exercise is scheduled for June 24-26 in Bettendorf, Iowa. The event will include shoreline cleanup training, response technique training, and a tabletop exercise covering the scenario of a spill resulting from a train and barge collision near Le Claire, Iowa.

## **Water Quality**

### *Water Quality Committees*

The UMRBA Water Quality Executive Committee met virtually on March 6, 2024. The agenda topics included UMRBA's renewed organizational structure and near-term hiring plans, UMRBA water quality-related work plan in FYs 2026 to 2026, states' water quality standards for the UMRS, and the potential recommendation for a new UMRBA nutrient committee.

The UMRBA Water Quality Task Force met virtually on April 15, 2024 to discuss potential modifications to the Upper Mississippi River Interstate Water Quality Monitoring Plan and to discuss preferences for a multi-state water quality database.

### *Plastics Pollution*

On March 12, 2024, USEPA held its second Mississippi River Plastic Pollution Research Project Workshop in St. Paul, Minnesota. UMRBA staff participated in the workshop, which included a structured decision

making exercise to develop goals, objectives, and measures of success for plastic pollution reduction on the Mississippi River.

#### *Nutrient-Related Communications*

Half Moon convened a virtual seminar on March 11, 2024 related to nutrient reductions, with topics including nutrients of concern, nutrient transport, deposition and effects, the Hypoxia Task Force, and state nutrient reduction strategies. UMRBA staff present on work occurring at the sub-basin scale.

#### *Meetings and Conferences*

UMRBA staff participated in the following conferences and partnership meetings:

- Missouri Nonpoint Source Management Symposium (April 16, 2024)
- Iowa Water Resources Coordinating Council meeting (March 26, 2024)
- Hypoxia Task Force Coordinating Committee monthly meetings and communications work group (March 21, 2024 and May 2, 2024)

### **Water Quantity (Flood and Drought Resilience)**

#### *NOAA National Integrated Drought Information System (NIDIS) Executive Council*

UMRBA staff participated in the National Integrated Drought Information System (NIDIS) Executive Council meeting on April 25, 2024 in Washington, D.C. Council members shared relevant programmatic efforts, including scientific advancements, related to drought resilience. The Council discussed relevant legislative and Administration updates, partnership opportunities through the Regional Drought Early Warning Systems (DEWS). The National Weather Service provided a briefing on its new 10-year strategic plan, and illuminated ways in which NIDIS and partners might help advance the plan.

### **Partnership Collaboration**

#### *Mississippi River Cities and Towns Initiative*

UMRBA staff attended the Mississippi River Cities and Towns Initiative's (MRCTI's) reception on March 5, 2024 in Washington, D.C. The reception hosted remarks from Senator John Boozman and Rep. Derrick Van Orden.

#### *Interstate Council on Water Policy*

The Interstate Council on Water Policy (ICWP) co-hosted with the Western States Water Council the Annual Roundtable on March 13-14, 2024. The Roundtable was convened in Washington, D.C. In addition to association business meetings, the Roundtable hosted panels of various federal agencies regarding their water-related programs and projects. In addition, the Roundtable hosted a Congressional Panel featuring the various authorizing and appropriations committees.

## **Title VI Informal Resolution Agreement**

UMRBA and USEPA executed a voluntary informal resolution agreement in response to a claim of a violation of Title VI of the Civil Rights Act. The work will involve:

- Establishing a notice of nondiscrimination and grievance procedures
- Designating a nondiscrimination coordinator
- Creating a public participation plan with standard operating procedures for UMRBA’s quarterly meetings and other publicly held meetings
- Standardizing approaches for ensuring meaningful access to all UMRBA programs, services, and activities for individuals with limited English proficiency and individuals with disabilities.
- Establishing a training plan for UMRBA staff and contractors, as appropriate, on UMRBA nondiscrimination and accessibility policies and procedures.

## **Financial Report**

### *Office Relocation*

UMRBA is scheduled to implement an office relocation before July 1, 2024. On April 19, the UMRBA Board provided the UMRBA Executive Director with the authority to:

- i) Enter into a seven-year lease agreement with MSP Braemer Equities for UMRBA’s new office suite per the terms of agreement that was provided to the Board on April 16, 2024.
- ii) Purchase furnishings from Fluid Interiors for UMRBA’s new office lease of no more than \$65,000 per the quote provided to the Board on April 8, 2024.

Chris Wieberg moved and Tim Hall seconded the motion to provide these authorities, which were unanimously approved by all five state representatives or alternates.

Starting July 1, 2024, the UMRBA mailing address will be: 7900 W. 78<sup>th</sup> Street, Suite 380, Edina MN 55439

### *Mississippi River Partnership Meeting*

America’s Watershed Initiative (AWI) and The Nature Conservancy (TNC) are co-hosting a Mississippi River Watershed Partnership Meeting in St. Louis on June 25-27, 2024. AWI and TNC have requested design and facilitation support from UMRBA. This includes working with the team assembled by AWI and TNC to define meeting objectives and design a meeting agenda and support materials. On behalf of UMRBA, Brian Stenquist will also emcee the event. Following the event, UMRBA will provide review of post-meeting materials.

In response to a request from Kirsten Wallace, the UMRBA Board provided the UMRBA Executive Director with the authority to enter into a contract of up to \$12,000 with the America’s Watershed Initiative for the event design and facilitation support. Wade Strickland moved and Tim Hall seconded the motion to provide this authority, which was unanimously approved by all five state representatives or alternates.

*UMRBA Financial Report*

Attached as page B-17 is UMRBA Treasurer Jason Tidemann's statement regarding his review of UMRBA's financial statement for the period of January 1, 2024, to March 31, 2024.

Attached as pages B-18 to B-22 are UMRBA's 2023 budget reports and balance sheet. As of May 7, 2024, ordinary income for FY 2024 totaled \$820,326.33 and expenses totaled \$925,303.74 for net ordinary income of \$-104,977.41. As of this date, UMRBA's cash assets totaled \$178,375.92.



May 2, 2024

The Honorable Tom Cole, Chair  
U.S. House of Representatives  
Appropriations Committee  
H-307, The Capitol  
Washington, D.C. 20515

The Honorable Rosa DeLauro, Ranking Member  
U.S. House of Representatives  
Appropriations Committee  
H-307, The Capitol  
Washington, D.C. 20515

The Honorable Chuck Fleischmann, Chair  
U.S. House of Representatives  
Energy and Water Appropriations Subcommittee  
2362-B Rayburn House Office Building  
Washington, D.C. 20515

The Honorable Marcy Kaptur, Ranking Member  
U.S. House of Representatives  
Energy and Water Appropriations Subcommittee  
2362-B Rayburn House Office Building  
Washington, D.C. 20515

Dear Chairs Cole and Fleischmann, Ranking Members DeLauro and Kaptur:

On behalf of the Upper Mississippi River Basin Association (UMRBA), I am writing to update UMRBA's support for \$187 million for the Navigation and Ecosystem Sustainability Program (NESP) given the U.S. Corps of Engineers (Corps) recently expressed capability estimates submitted to Congress.

We understand that the Corps is estimating the NESP FY 2025 navigation capability at \$65 million and the NESP FY 2025 ecosystem capability at \$125 million.

This is an update to UMRBA's FY 2025 appropriation request letter submitted to you on April 4, 2024 (see enclosure).

Sincerely,

A handwritten signature in blue ink that reads 'Kirsten Wallace'. The signature is written in a cursive style and is enclosed in a thin blue rectangular border.

Kirsten Wallace  
Executive Director  
Upper Mississippi River Basin Association

cc: House of Representatives Upper Mississippi River Delegation

Encl: UMRBA FY 2025 USACE Appropriations Priorities Letter (April 4, 2024)

7831 East Bush Lake Road, Ste 302  
Bloomington, MN 55439  
651-224-2880  
[www.UMRBA.org](http://www.UMRBA.org)



April 4, 2024

The Honorable Kay Granger, Chair  
U.S. House of Representatives  
Appropriations Committee  
H-307, The Capitol  
Washington, D.C. 20515

The Honorable Rosa DeLauro, Ranking Member  
U.S. House of Representatives  
Appropriations Committee  
H-307, The Capitol  
Washington, D.C. 20515

The Honorable Chuck Fleischmann, Chair  
U.S. House of Representatives  
Energy and Water Appropriations Subcommittee  
2362-B Rayburn House Office Building  
Washington, D.C. 20515

The Honorable Marcy Kaptur, Ranking Member  
U.S. House of Representatives  
Energy and Water Appropriations Subcommittee  
2362-B Rayburn House Office Building  
Washington, D.C. 20515

Dear Chairs Granger and Fleischmann, Ranking Members DeLauro and Kaptur:

As Congress develops its Fiscal Year 2025 appropriations priorities for the U.S. Army Corps of Engineers, I am writing on behalf of the Upper Mississippi River Basin Association (UMRBA) to respectfully request funding for the following programs and projects:

— **\$50 million for the Navigation and Ecosystem Sustainability Program (NESP)**

In FY 2025, NESP will initiate construction of three project construction contract awards totaling \$35 million, capacity support for nine federal and state agencies as well as UMRBA, monitoring activities (including at L&D 22 fish passage), planning activities for systemic forest stewardship, and planning and design activities for eleven ecosystem restoration projects, including systemic water level management. In addition, the \$50 million appropriation would support foundational programmatic efforts such as developing strategic management plans, ecological restoration and sustainability goals and objectives, and an adaptive management plan.

— **\$55 million for the Upper Mississippi River Restoration (UMRR) Program**

In FY 2025, UMRR will implement 27 habitat projects across five states and three Corps Districts. Of these 27 projects, UMRR will be actively constructing 10 projects and advance planning and design on 16 habitat projects. These projects integrate a broad range of restoration techniques that strive to use or mimic the river’s natural processes to enhance and protect important fish and wildlife habitat, restore the river’s floodplain structure and function, and counteract the factors degrading the river’s ecological health. UMRR will continue its long term resource monitoring and research, providing a much clearer understanding of the complex, dynamic relationships among various ecosystem components and watershed drivers.

7831 East Bush Lake Road, Ste 302  
Bloomington, MN 55439  
651-224-2880  
[www.umrba.org](http://www.umrba.org)

Page 2  
April 4, 2024

UMRBA is the Governor-established forum for interstate water resource planning and management on the Upper Mississippi River, representing its member states of Illinois, Iowa, Minnesota, Missouri, and Wisconsin and working collaboratively with the federal agencies as well as the navigation industry, environmental organizations, local communities, and others who work directly to improve the Upper Mississippi River System. UMRBA's member states are strongly committed to the principles of sustainability and multi-use as the foundation of the river's management. The programs and projects listed above collectively help to improve the health and resilience of the navigation system and ecosystem as well as the many river communities of the Upper Mississippi River System.

We appreciate your consideration of this request. Please contact me at 651-224-2880 or [kwallace@umrba.org](mailto:kwallace@umrba.org) to arrange an opportunity to discuss our request in more detail.

Sincerely,

A handwritten signature in blue ink that reads "Kirsten Wallace". The signature is written in a cursive style and is enclosed in a thin blue rectangular border.

Kirsten Wallace  
Executive Director  
Upper Mississippi River Basin Association

cc: House Upper Mississippi River Delegation

# Coalition Support for USGS Streamgauge Networks and Modernization

Congressman Mike Simpson, Chair  
Congresswoman Chellie Pingree, Ranking Member  
House Appropriations Subcommittee on Interior, Environment & Related Agencies  
2363 Rayburn House Office Building  
Washington, D.C. 20515

February 23, 2024

RE: WATER DATA & SCIENCE PROGRAM FUNDING  
Interior Department Appropriations for FY2025

**Summary of Coalition's Requests for FY2025:**  
**Federal Priorities Streamgages = \$33.0 M**  
**Cooperative Matching Funds Program = \$68M**  
(includes \$33M streamgauge support and studies)  
**NGWOS/data modernization = \$35M**

Dear Chairman Simpson and Ranking Member Pingree:

Our coalition of 99 water management and use stakeholders requests your support to sufficiently fund the United States Geological Survey's (USGS) Federal Priorities Streamgauge network and related programs for the upcoming Fiscal Year (FY) 2025 budget appropriation.

Our organizations rely heavily on these streamgages to make critical decisions about public safety, respond to extreme weather events, conservation and to support the nation's economy. The information they provide is extensive and invaluable for managing, protecting, and planning to support and improve the resilience of the nation's important water resource infrastructure. Funding for the network needs to keep pace with inflation so that the information from this network continues to be available for many different purposes.

Our coalition's funding request is summarized below. The final section of this letter explains in more detail why we as a nation need to adequately fund the network of streamgages.

## Summary of funding request

Our broad coalition of state agencies, interstate commissions, associations, universities, non-governmental organizations, and private industry submit the FY 2025 USGS budget appropriation request as follows: **\$33M** dedicated to Federal Priorities Streamgages, **\$68M** for the Cooperative Matching Funds Program (including \$33M for streamgauge support) and **\$35M** for Next Generation Water Observing System and data delivery modernization.



## Supporting details

### **Federal Priority Streamgages (FPS) -- \$33M**

Operational costs of the FPS network nationwide have grown by an average of approximately 5 percent per year since 2016, totaling \$3M. With further inflation expected, operational costs are estimated to increase at least another 5-7 percent. As a result, the increased costs associated with the operation and physical maintenance and data services and distribution have resulted in a \$1M per year shortfall since 2022. Our request for FY 2025 FPS funding of \$33M covers the costs of existing gages, precludes the loss of any streamgage sites, offsets the impact of inflation and allows for the installation of 30 new FPS sites to close the gap in streamflow data where they are crucially needed (see next section).

### **Cooperative Matching Funds (CMF) Program -- \$68M**

The USGS works with more than 1,400 partners nationwide (federal, state, tribal, local and non-governmental organizations) using CMF to jointly support additional streamgages that cannot be funded through the FPS. This matching program began as a 50/50 cost share but has seen the federal contributions decrease to less than 30 percent over time. Our request of \$68 M for FY 2025 stands firm with last year's request.<sup>1</sup> These funds are needed to provide the required cooperative matching funds. Of that, \$33M is dedicated for the protection of the approximately 5,275 CMF-supported streamgages, already established and functioning nationwide.

### **Next Generation Water Observing System (NGWOS) - \$35M**

Our coalition appreciates Congress' support of the Next Generation Water Observation System (NGWOS) at the same level as the past two years of \$35M to allow to continue the NGWOS program as intended. Funding at this level for FY2025 would allow USGS to continue development of Integrated Water Science (IWS) tools and science, applicable nationwide, in the fifth of ten planned demonstration water basins.

## **Why are USGS Streamgage network data especially important now?**

It is more important than ever for Congress to ensure adequate funding for the USGS Streamgage Program. Short duration high intensity precipitation events are increasing in occurrence and volume creating flooding issues across the country and adding unpredictability to communities' abilities to plan for and fund water infrastructure investments. Extreme events such as flooding, drought and sea level rise in coastal regions

<sup>1</sup> See USGS FY2024 Streamgage Support Letter dated February 28, 2023: [https://icwp.org/wp-content/uploads/2023/04/USGS-Streamgage-Letter-FY2024\\_Senate-Approps\\_2.28.23.pdf](https://icwp.org/wp-content/uploads/2023/04/USGS-Streamgage-Letter-FY2024_Senate-Approps_2.28.23.pdf)

are reasons why a robust streamgauge network is an essential resource for water managers to plan and act under pressing conditions.

Without increased funding to maintain the current network of USGS streamgauge sites, we are less equipped to make informed decisions pertaining to navigation, flood and hurricane risk predictions, drought determinations, and water supply forecasts. Streamgauge data are crucial for use in decision making tools to provide critical life and property saving information. They augment research management decisions, maintain water dependent infrastructure, and provide essential public health and environmental condition information. Insufficient funding seriously compromises our national ability to address federal, state, tribal, local socioeconomic issues, including international treaty obligations.

The 2022 USGS Streamflow Monitoring Network analysis determined priority areas to maintain or improve coverage, resolution, and representation throughout the United States.<sup>2</sup> This analysis identified gaps in network coverage that, if further built out by establishing new streamgauge sites, would enhance resilience to extreme weather events. These areas include coastal watersheds to reduce flood risk, regions in 39 states that lack streamflow information to assess how local climate is affecting floods and droughts, and areas of the U.S. where water supply is vulnerable due to reduced snowpack conditions.

## Conclusion

With your help and continued support, Congress can enable the USGS to fulfill its Water Resources Mission Area goals by adequately funding the Federal Priority Streamgages network, Cooperative Matching Funds program, and NGWOS to move water science into the 21st century.

We are happy to answer your questions. For more background information about funding and the utility of the national streamflow information program from stakeholders' perspectives, visit ICWP's website: <https://icwp.org/streamgauge-support/>.

Please contact any of us or Beth Callaway at the Interstate Council on Water Policy at: [beth@icwp.org](mailto:beth@icwp.org) or (307) 772-1999.

### CC:

Appropriations Subcommittee Members  
Secretary of the Interior  
Director, Office of Management and Budget  
Director, US Geological Survey

<sup>2</sup> Konrad, C.P., Anderson, S.W., Restivo, D.E., and David, J.E., 2022, Network Analysis of USGS Streamflow Gages: U.S. Geological Survey data release, <https://doi.org/10.5066/P9C8NYTO>.

**Organizations Signing on to FY 2025 Streamgauge Support Letter (February 23, 2024)**

<b>Organization</b>	<b>Name</b>
Alabama Office of Water Resources	Tom Littlepage
America's Watershed Initiative	Kimberly A. Lutz
American Fisheries Society	Douglas Austen
American Rivers	Ted Illston
American Society of Civil Engineers	Thomas W Smith
American Water Resources Assn.	Dresden Farrand
American Water Works Assn.	G. Tracy Mehan, III ED
American Whitewater	Mark Singleton, ED
Appalachian Mountain Club	Susan Arnold
Assoc of American State Geologists	James Faulds
Assoc of Calif Water Agencies	Ian Lyle
Assoc of Clean Water Administrators	Mary Anne Nelson
Assoc of Fish & Wildlife Agencies	Kurt Thiede
Association of Metropolitan Water Agencies	Tom Dobbins
Assoc of State Dam Safety Officials	Lori Spragens
Assoc of State Flood Plain Managers	Chad Berginnis
Bear River Commission	Don Barnett
Big Hole Watershed Committee	Pedro Marques
Big Horn River Alliance	Anne Marie Emery
Calif Sportfishing Protection Alliance	Bill Jennings
Cascade Water Alliance	Ray Hoffman
CDM Smith	Timothy Feather
Cobb County Marietta Water Authority	Cole Blackwell
Colo Riv Basin Salinity Control Forum	Don Barnett
Colorado Lake & Reservoir Management Assn.	Suresh Niraula
Delaware River Basin Commission	Steve Tambini
Environmental Defense Fund	Steve Cochran
Fly Fishers International	Patrick Berry
Freshwater Mollusk Conservation Society	Steve McMurray
Great Lakes Commission	Erika Jensen
Great Lakes Observing System	Kelli Paige
Hawaii Commission on Water Resource Management	Kaleo Manuel
Henry's Fork Foundation	Brandon Hoffner
Hoopa Tribal Land Management/Environmental Protection Agency	Ken Norton

Hydrological Services America	Peter Ward
Idaho Rivers United/Hydropower Reform Coalition	Nic Nelson
Idaho Water Users Assoc	Paul Arrington
Interstate Comm Potomac River Basin	Michael Nardolilli
Interstate Council on Water Policy	Matt Unruh
Kansas Water Office	Connie Owen
Kansas-Oklahoma Arkansas River Compact Commission	Earnie Gilder
KISTERS No. America	Becca Emery
Madison River Foundation	Johnathan Malovich
Metropolitan North Georgia Water Planning District	Katherine Zitsch
Mile High Flood District	Colin Haggerty
Minnesota DNR	Katie Smith
Missouri DNR	Erin Fanning
Montana Department of Environmental Quality	Lindsey Krywaruchka
Montana Department of Natural Resources and Conservation	Anna Pakenham-Stevenson
Montana Fish, Wildlife & Parks	Bill Schenk
Montana Trout Unlimited	David Brooks
Montana Watershed Coordination Council	Ethan Kunard
National Assoc of Flood & Stormwater Mgm't Agencies	Sunny Simpkins
National Assoc State Boating Law Admin	John Fetterman
National Audubon Society	Julie Hill-Gabriel
National Drought Mitigation Center	Mark Svoboda
National Ground Water Association	Terry Morse
National Hydrologic Warning Council	Bruce Rindahl
National Hydropower Association	Malcolm Woolf
National Society of Professional Surveyors	Tim Burch
National Water Resources Association	Dale Nellor
National Water Supply Alliance	Dave Mitamura
National Wildlife Federation	Abby Tinsley
Nebraska Department of Natural Resources	Thomas Riley
NEIWPC	Susan J. Sullivan
North American Lake Management Society	Kellie Merrell

North Dakota Department of Water Resources	Andrea Travnicek
Ohio Riv Valley Water Sanitation Comm	Richard Harrison
Oklahoma Water Resources Board	Julie Cunningham
Oregon Water Resources Congress	April Snell
Phycological Society of America	Eric Linton
Red River Compact Administration	Sue Lowry
Republican Riv Compact Administration	Thomas Riley
Rivers Alliance of Connecticut	Alicea Charamut
Society of Wetland Scientists	Loretta Battaglia
Southeast Kansas Groundwater Management Dist 3	Mark Rude
Southwest Tribal Fisheries Commission	Adam Ringia
Susquehanna River Basin Commission	Andrew Dehoff
Tacoma Water	Scott Dewhirst
The Nature Conservancy	Jimmy Hague
Three Rivers QUEST	Melissa O'Neal
Tri-State Water Resource Coalition	Gail Melgren
Trout Unlimited	Kate Miller
University of Georgia River Basin Center	Sechindra Vallury/ Seth Wenger
Upper Colo River Commission	Chuck Collum
Upper Miss River Basin Assoc	Kirsten Wallace
Upper Missouri Watershed Alliance	Sherry Meador
Virginia Dept. of Environmental Quality, Office of Water Supply	William Cloe
Washington St Water Resource Assoc	Tom Myrum
Water Environment Federation	Walter Marlowe
West Virginia Rivers Coalition	Angie Rosser
West Virginia Water Research Institute	Paul Ziemkiewicz
Western Landowners Alliance	Leslie Allison
Western States Water Council	Tony Willardson
Wild Salmon Center	Jessica Helsley
Wyoming State Engineer's Office	Brandon Gebhart
Wyoming Water Association	Andrew Strike
Wyoming Water Development Office	Jason Mead
Xylem Analytics North America	Randy Hadland
Yellowstone River Commission	Brandon Gebhart

## Natalie Lenzen

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**From:** Tidemann, Jason (DNR) <jason.tidemann@state.mn.us>  
**Sent:** Monday, May 6, 2024 8:41 AM  
**To:** Natalie Lenzen  
**Subject:** RE: UMRBA January 1 - March 31 Treasurer Report

Hello Kirsten,

As Treasurer, I have reviewed the monthly financial statements for the period 1/1/24-3/31/24. Activity reported on the Balance Sheet, Profit/Loss Budget Overview, Check Register, Visa statements and Open Invoices Report provide a reasonable and consistent representation of the monthly financial activity for the referenced period.

Jason Tidemann

# Upper Mississippi River Basin Association

## FY 2024 Profit & Loss Budget Overview

July 2023 - June 2024

	TOTAL		
	ACTUAL	BUDGET	OVER BUDGET
<b>Revenue</b>			
4000 State Dues			
Illinois Dues	67,000.00	67,000.00	0.00
Iowa Dues	67,000.00	67,000.00	0.00
Minnesota Dues	67,000.00	67,000.00	0.00
Missouri Dues	67,000.00	67,000.00	0.00
Wisconsin Dues	67,000.00	67,000.00	0.00
WQ Assessment	108,000.00	108,000.00	0.00
<b>Total 4000 State Dues</b>	<b>443,000.00</b>	<b>443,000.00</b>	<b>0.00</b>
4100 Contracts and Grants			
Interstate WQ Pilot	9,931.36	0.00	9,931.36
U.S. FWS	7,958.51		7,958.51
University of Minnesota	10,000.00		10,000.00
USACE (NESP)	30,537.17	200,000.00	-169,462.83
USACE (UMRR)	39,400.00	135,500.00	-96,100.00
USEPA (HTF)		75,000.00	-75,000.00
USEPA (OPA)	221,066.47	240,000.00	-18,933.53
USEPA (OWOW)	36,198.22	80,000.00	-43,801.78
USGS Nature-Based Solutions		50,000.00	-50,000.00
<b>Total 4100 Contracts and Grants</b>	<b>355,091.73</b>	<b>780,500.00</b>	<b>-425,408.27</b>
4200 Interest Income			
Short Term Interest			
Short Term (CD)	14,552.02	17,300.00	-2,747.98
Short Term (Checking)	4,235.46	6,000.00	-1,764.54
Short Term (Savings)		0.00	0.00
Short Term (Sweep)	2,404.69	8,400.00	-5,995.31
<b>Total Short Term Interest</b>	<b>21,192.17</b>	<b>31,700.00</b>	<b>-10,507.83</b>
<b>Total 4200 Interest Income</b>	<b>21,192.17</b>	<b>31,700.00</b>	<b>-10,507.83</b>
4300 Other Income			
Meeting Meals Income	80.00		80.00
Workshop Meals Income	962.43		962.43
<b>Total 4300 Other Income</b>	<b>1,042.43</b>		<b>1,042.43</b>
<b>Total Revenue</b>	<b>\$820,326.33</b>	<b>\$1,255,200.00</b>	<b>\$ -434,873.67</b>
<b>GROSS PROFIT</b>	<b>\$820,326.33</b>	<b>\$1,255,200.00</b>	<b>\$ -434,873.67</b>
<b>Expenditures</b>			
5001 Payroll Expenses			
Benefits	-5,480.34		-5,480.34
ICHRA	867.58		867.58
Salary	625,473.81	810,383.77	-184,909.96
SocSec Company	-1,472.38		-1,472.38
Taxes	49,920.34	62,017.30	-12,096.96
SUTA (Minnesota UC)	-2.21	405.34	-407.55

# Upper Mississippi River Basin Association

## FY 2024 Profit & Loss Budget Overview

July 2023 - June 2024

	TOTAL		
	ACTUAL	BUDGET	OVER BUDGET
Workforce Enhancement Fee	-2.21	405.34	-407.55
<b>Total Taxes</b>	<b>49,915.92</b>	<b>62,827.98</b>	<b>-12,912.06</b>
<b>Total 5001 Payroll Expenses</b>	<b>669,304.59</b>	<b>873,211.75</b>	<b>-203,907.16</b>
5002 Benefits Administration	1,740.00	1,000.00	740.00
5100 Space Rental			
Office Rental	59,147.51	55,089.00	4,058.51
<b>Total 5100 Space Rental</b>	<b>59,147.51</b>	<b>55,089.00</b>	<b>4,058.51</b>
5101 Legal and Financial			
Bank Charges		40.00	-40.00
Insurance	2,249.35	6,200.00	-3,950.65
Legal and Tax Services	3,085.00	5,000.00	-1,915.00
<b>Total 5101 Legal and Financial</b>	<b>5,334.35</b>	<b>11,240.00</b>	<b>-5,905.65</b>
5102 Telephone/Communications	11,727.16	8,000.00	3,727.16
5103 Communications/Publications	75,165.00	50,000.00	25,165.00
5104 Equipment			
Equipment (Maint./Rental)	811.06	1,000.00	-188.94
Equipment (Purchase)	4,241.92		4,241.92
<b>Total 5104 Equipment</b>	<b>5,052.98</b>	<b>1,000.00</b>	<b>4,052.98</b>
5105 Supplies	1,602.33	5,000.00	-3,397.67
5106 Postage	118.13	200.00	-81.87
5107 Other Services	15,355.00	10,000.00	5,355.00
5200 Meeting Expenses	24,989.03	50,000.00	-25,010.97
5201 Travel	33,562.55	50,000.00	-16,437.45
5202 State Travel Reimbursement			
Illinois	958.80	5,000.00	-4,041.20
Iowa	388.98	5,000.00	-4,611.02
Minnesota	352.80	5,000.00	-4,647.20
Missouri	1,000.08	5,000.00	-3,999.92
State WQ Travel	494.39	3,500.00	-3,005.61
Wisconsin		5,000.00	-5,000.00
<b>Total 5202 State Travel Reimbursement</b>	<b>3,195.05</b>	<b>28,500.00</b>	<b>-25,304.95</b>
5300 USGS Nature-Based Solutions			
Other Contractual Services		30,000.00	-30,000.00
UMRBA Contractual Services		8,000.00	-8,000.00
<b>Total 5300 USGS Nature-Based Solutions</b>		<b>38,000.00</b>	<b>-38,000.00</b>
5301 OPA Expenses			
Equipment (Maint./Rental) OPA	530.10	6,500.00	-5,969.90
Equipment OPA	4,186.46	1,000.00	3,186.46
Other OPA		50.00	-50.00
Travel OPA	2,170.15	2,000.00	170.15
<b>Total 5301 OPA Expenses</b>	<b>6,886.71</b>	<b>9,550.00</b>	<b>-2,663.29</b>
5302 USEPA NRS Workshops			



# Upper Mississippi River Basin Association

## FY 2024 Profit & Loss Budget Overview

July 2023 - June 2024

	TOTAL		
	ACTUAL	BUDGET	OVER BUDGET
Communications	600.00	3,900.00	-3,300.00
Meeting Expenses	4,518.26	40,000.00	-35,481.74
Supplies		100.00	-100.00
Travel	163.71	4,700.00	-4,536.29
Travel Assistance	6,841.38	10,000.00	-3,158.62
<b>Total 5302 USEPA NRS Workshops</b>	<b>12,123.35</b>	<b>58,700.00</b>	<b>-46,576.65</b>
5999 Miscellaneous Expense	0.00		0.00
<b>Total Expenditures</b>	<b>\$925,303.74</b>	<b>\$1,249,490.75</b>	<b>\$ -324,187.01</b>
NET OPERATING REVENUE	<b>\$ -104,977.41</b>	<b>\$5,709.25</b>	<b>\$ -110,686.66</b>
NET REVENUE	<b>\$ -104,977.41</b>	<b>\$5,709.25</b>	<b>\$ -110,686.66</b>

# Upper Mississippi River Basin Association

## Balance Sheet

As of May 7, 2024

	TOTAL
<b>ASSETS</b>	
Current Assets	
Bank Accounts	
Checking HT 2732	178,375.92
Investment	
CD_2	50,000.00
Sweep HT 5401	313,060.32
<b>Total Investment</b>	<b>363,060.32</b>
<b>Total Bank Accounts</b>	<b>\$541,436.24</b>
Accounts Receivable	
Contract/grants	
Invoiced/Billable	33,792.48
<b>Total Contract/grants</b>	<b>33,792.48</b>
<b>Total Accounts Receivable</b>	<b>\$33,792.48</b>
Other Current Assets	
Prepaid Expense	8.00
Office Rental Prepaid Expense	8,244.10
<b>Total Prepaid Expense</b>	<b>8,252.10</b>
<b>Total Other Current Assets</b>	<b>\$8,252.10</b>
<b>Total Current Assets</b>	<b>\$583,480.82</b>
Fixed Assets	
604(b) Equipment	568.95
Accum. Deprec. 604(b)	-568.95
Accum. Deprec. OPA	-23,004.15
Accum. Deprec. STC	-2,989.68
Accum. Deprec. UMRBA	-32,789.73
Accum. Deprec. WQ	-1,290.00
OPA Equipment	28,205.12
STC Equipment	4,332.67
UMRBA Equipment	100,330.13
WQ Equipment	1,290.47
<b>Total Fixed Assets</b>	<b>\$74,084.83</b>
<b>TOTAL ASSETS</b>	<b>\$657,565.65</b>

# Upper Mississippi River Basin Association

## Balance Sheet

As of May 7, 2024

	TOTAL
<b>LIABILITIES AND EQUITY</b>	
Liabilities	
Current Liabilities	
Credit Cards	
Visa Chase 5294	1,897.66
<b>Total Credit Cards</b>	<b>\$1,897.66</b>
Other Current Liabilities	
Deferred MO DoC (WLM) Revenue	4,206.05
Office Expense Liabilities	
Travel Expense	1,619.60
<b>Total Office Expense Liabilities</b>	<b>1,619.60</b>
Payroll Liabilities	-695.34
Accrued Vacation	51,656.55
Accrued Vacation FICA	3,951.71
Federal Withholding	189.00
Medicare	
Medicare Company	39.17
Medicare Employee	39.17
<b>Total Medicare</b>	<b>78.34</b>
Minnesota Withholding	-1,113.17
MN Income Tax	1,206.17
MN Unemployment Taxes	46.38
Social Security	
SocSec Company	167.50
SocSec Employee	167.50
<b>Total Social Security</b>	<b>335.00</b>
SUTA (Minnesota UC)	325.51
Workforce Enhancement Fee	334.97
<b>Total Payroll Liabilities</b>	<b>56,315.12</b>
<b>Total Other Current Liabilities</b>	<b>\$62,140.77</b>
<b>Total Current Liabilities</b>	<b>\$64,038.43</b>
<b>Total Liabilities</b>	<b>\$64,038.43</b>
Equity	
Retained Earnings	698,504.63
Net Revenue	-104,977.41
<b>Total Equity</b>	<b>\$593,527.22</b>
<b>TOTAL LIABILITIES AND EQUITY</b>	<b>\$657,565.65</b>

## **ATTACHMENT C**

### **USFWS Upper Mississippi River Refuge** **100th Anniversary**

- USFWS News Release (3/12/2024) (C-1)
- Milwaukee Journal Sentinel News Story (2/27/2024) (C-2 to C-4)
- Centennial Planning Committee and Partners Website:  
[https://uppermiss100.com/History\\_1924.html](https://uppermiss100.com/History_1924.html)



# U.S. Fish and Wildlife Service

## *News Release*

**Upper Mississippi River National Wildlife and Fish Refuge**  
**La Crosse District**  
N5727 County Rd Z  
Onalaska, WI 54650

### **FOR IMMEDIATE RELEASE**

3/12/2024

Contact: Hallie Schulz (608)-779-2392

### **The “Upper Miss” Refuge is Celebrating 100 Years!**

The Upper Mississippi River National Wildlife and Fish Refuge (refuge) is celebrating 100 years of conservation and recreation in 2024! The creation of the Refuge was largely the result of the Izaak Walton League of America, and in particular, the efforts of its founder and leader, Will Dilg. In the summer of 1923, Dilg learned of a plan to drain large areas of the river’s backwaters so he came up with an ambitious solution to the drainage scheme: turn the entire stretch of river into a federal wildlife refuge. Remarkably, one year later, due to Dilg’s determination, Congress passed the Upper Mississippi River Wild Life and Fish Refuge Act on June 7, 1924.

Nestled in the Driftless Area and bordered by steep wooded bluffs, the Mississippi River corridor and refuge offer scenic beauty unmatched in the heart of America. The beauty and recreational opportunities are the reason the refuge hosts over 3.7 million visits annually. The 261-mile refuge is the longest river refuge in the continental U.S, beginning near Wabasha, Minnesota and passing through Minnesota, Wisconsin, Iowa, and Illinois before ending near Rock Island, IL. Visitors come from near and far to see tundra swans, canvasbacks and other waterfowl, as well as bald eagles, in numbers rarely seen in other locations of the continent. Each season offers new perspectives and exceptional recreational opportunities for paddlers, anglers, wildlife watchers, photographers, hunters, and many outdoor enthusiasts.

Nearly 250,000 acres of floodplain forests, braided river channels, marshes, and prairie offer premium habitat for resident and migratory wildlife. Located in the middle of the Mississippi Flyway, the refuge is critically important for migrating waterfowl, particularly tundra swans and canvasbacks. The refuge is also an Audubon Important Bird Area, providing habitat to over 300 bird species. Please join us while we celebrate the 100<sup>th</sup> birthday of this national treasure! For more information contact Hallie Schulz at 608-779-2392.

*The U.S. Fish and Wildlife Service works with others to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people. For more information, visit [www.fws.gov](http://www.fws.gov) and connect with us on social media: [Facebook](#), [Instagram](#), [X](#) (formerly known as Twitter), [LinkedIn](#), [Flickr](#), and [YouTube](#).*

-FWS-

**NEWS**

# Upper Mississippi national wildlife refuge, which saved the floodplain from being turned into farmland, turns 100

**Madeline Heim**

Milwaukee Journal Sentinel

Published 7:06 a.m. CT Feb. 27, 2024

If you're driving south along Wisconsin's western border, you're not just driving along the Mississippi River — you're also passing by the Upper Mississippi River National Wildlife and Fish Refuge.

The refuge protects the river's floodplain and all the wildlife that live within it. More than 3.7 million people visit each year to hunt, fish and otherwise enjoy the area's tranquil backwaters, marshes and forests.

The Upper Mississippi River National Wildlife and Fish Refuge is the longest contiguous river refuge in the continental U.S., spanning 261 river miles from Wabasha, Minnesota to Rock Island, Illinois.

This year, the refuge is turning 100. The anniversary itself is on June 7, but celebrations are starting now. Earlier this month, the state Legislature issued a special proclamation for the refuge, as did the mayors of La Crosse and Winona, Minnesota.

Refuge manager Sabrina Chandler told the Journal Sentinel she wants people to recognize that when they visit the river, they're visiting the refuge and taking advantage of a vast network of protected public lands.

**More:** The Mississippi River is central to America's story. Why doesn't it get more love?

"This isn't just a party or a celebration for us. It's intentional," Chandler said. "We want to focus on where we're headed from here."

## What is the Upper Mississippi River National Wildlife and Fish Refuge?

The Refuge protects more than 240,000 acres of Mississippi River floodplain situated between the towering bluffs of the Driftless Region. It also has been designated as Wetland of International Importance by the Ramsar Convention, as well as a Globally Important Bird Area.

**More:** A Driftless Region county is aiming to be a new frontier in protecting Wisconsin's darkest skies

The refuge is managed by the U.S. Fish and Wildlife Service. Some of its land is owned by the U.S. Army Corps of Engineers. Both agencies, and many others, work on habitat restoration and wildlife protection projects for the area.

## Why was it created?

In 1923, avid fisherman Will Dilg learned of a plan to drain the Mississippi River's backwater sloughs near Lansing, Iowa, to turn into farmland.

Dilg, who was deeply interested in conservation and was the first president of the Izaak Walton League of America, launched an ambitious plan to turn a long stretch of the river into a federal refuge to save it from development.

One year later, Congress passed the Upper Mississippi River Wild Life and Fish Refuge Act, which authorized the acquisition of the land.

Today, the land's refuge status differentiates it from what things look like downriver. As the Mississippi bisects the lower portions of Iowa, Illinois and Missouri, it's constrained by levees to protect high-production farmland nearby. And much of the lower Mississippi is heavily industrialized — between Baton Rouge and New Orleans, for example, oil, gas and chemical plants line the river. Environmental advocates call it Cancer Alley because of the increased risks of the disease posed by toxic air pollution.

## How many birds, fish and other wildlife use the refuge?

The refuge is home to an impressive array of fish and wildlife. Perhaps most notable are the hundreds of bald eagle pairs and the thousands of tundra swans that stop each fall on their journey from the arctic coast of Canada to Chesapeake Bay.

**More:** Abundant food, safe resting grounds bring thousands of tundra swans to the Mississippi River in late fall

More than 306 types of birds migrate through the refuge, including 50% of the world's canvasback ducks. It provides habitat for 51 mammal species, 42 types of freshwater mussels and 119 species of fish.

## What about humans?

The refuge is popular with hunters, fishers, paddlers and wildlife photographers. There's also a wide variety of hiking trails to take visitors through the area.

Refuge staff also host educational programs for the public about birding, plant life, Driftless Region geology and other topics.

**More:** 9 national and state parks along the Mississippi River that showcase the natural and historic importance of the waterway

## How can I visit?

There's no fee to use the refuge. If you want more information, start at the La Crosse District Visitor Center and Office at N5727 County Rd Z in Onalaska.

If you're interested in taking part in any centennial celebrations — including canoe paddles, river cleanups, guided bird walks, art events and film festivals — visit [uppermiss100.com](http://uppermiss100.com).

*Madeline Heim is a Report for America corps reporter who writes about environmental issues in the Mississippi River watershed and across Wisconsin. Contact her at 920-996-7266 or [mheim@gannett.com](mailto:mheim@gannett.com).*



# ATTACHMENT D

**UMR Flow Frequency Study Information Paper**  
**(5/9/2024) (D-1 to D-3)**



US Army Corps  
of Engineers  
Rock Island District

# Upper Mississippi River Flow Frequency Study

## Point of Contact

Leo Keller  
Project Manager  
309-794-5720

## Location

Upper Mississippi River Basin

## Description

The current Upper Mississippi River and Illinois River flow frequency study, completed in 2004, was created using a period of record ending in 1998. Since then, frequent and record setting major floods have occurred. The flood of 2019 was not only historic with regards to flood heights, but also in its duration. The Mississippi River was above flood stage at Cape Girardeau for 145 days. In addition, many communities between Dubuque, Iowa and St. Louis, Missouri have experienced the majority of their top 10 flood crests in the past 20 years. Significant flooding on the UMR occurred in 2001, 2008, 2011, 2013, 2014, 2018, and 2019. The Illinois River has experienced the same unprecedented flooding. At Peoria, IL (on the Illinois Waterway), 5 of the 10 highest flood crests have occurred since 1998, including the record crest in 2013.



This effort will update the flood flow frequency profiles on the Upper Mississippi River from Birds Point (Mile 0.0) to Anoka, MN (864.8), and the Illinois River from Grafton (Mile 0.0) to Dresden Island Lock and Dam (Mile 271.5). Previous methodologies will be reviewed and modified as needed to confirm they meet the current state of the practice of flood frequency calculation. The study will utilize input data gathered during the previous flow frequency effort, augmented with new observed data to complete a 122-year period of record (1898 to 2020).

Completion of the proposed study, utilizing the updated period of record and new federal guidelines for determining flood flow frequencies (England, J.F., Jr., Cohn, T.A., Faber, B.A., Stedinger, J.R., Thomas, W.O., Jr., Veilleux, A.G., Kiang, J.E., and Mason, R.R., Jr. 2019. "Guidelines for Determining Flood Flow Frequency—Bulletin 17C." In *Book 4: Hydrologic Analysis and Interpretation*, Version 1.1: May 31, 2019, 148. Reston, VA: U.S. Geological Survey) will improve confidence and reliability of flow frequencies on the UMR and IWW to support flood risk management planning and communication and the USACE Dam and Levee Safety Programs. This will provide an opportunity to incorporate available climate change data into the analysis of a large river system using the latest USACE Guidance. Updated frequency profiles and associated documentation will be published at the completion of this effort.

## Background

The benefits of an updated flow frequency study on the Upper Mississippi and Illinois Rivers will be realized immediately and ensuring water resource decisions are made using current and accurate data will provide a considerable value to the nation through potential flood impact analyses, flood resiliency alternative evaluations, life safety considerations, and economic impact predictions. The Corps continually engages with watershed stakeholders through its various programs and authorities. These stakeholders routinely ask what the effects these recent common and historic floods are on the previously calculated frequencies and have requested this data be included when making water resource decisions.

From FY2018 to present, the Corps provided technical assistance to the Upper Mississippi River Basin Association (UMRBA) on a Planning Assistance to States effort to identify Upper Mississippi River Watershed Strategy measures that have consensus and could have an immediate benefit. Two of the high leverage measures USACE identified and secured Federal funding for were the seamless UMRS HEC-RAS hydraulic flood analysis model (completed in 2022) and the Flow Frequency Study (initiated in 2021). As valuable as the HEC-RAS flood analysis model has demonstrated, it is still operating with the old 1998 flow frequency data. The accuracy of the model's flood analysis will be significantly improved with the updated flow frequency data that incorporates the last 25 years of actual flow data that includes several historic magnitude and duration flood events.



US Army Corps  
of Engineers  
Rock Island District

# Upper Mississippi River Flow Frequency Study

The combination of the HEC RAS flood analysis model and recent flow frequencies will be immediately applied to improve flood impact analysis and planning for better flood resiliency for the UMRS communities and landowners.

## Status

The project was partially funded in FY 2021, FY 2022, and FY 2023 for development of a detailed scope of work, inventorying existing data and performing most of an Engineering and Construction Bulletin (ECB) 2018-14 climate assessment.

Some of the major tasks still to be completed by this ongoing UMRS Flow Frequency Study include:

- HEC-HMS models will be used to compute local inflow for the period of record.
- Compliment newly developed UMRS HEC-RAS flood analysis models by incorporating the last 25yrs of record setting flows, prolonged flood events and compute profiles for future flood frequency analysis.
- Existing Corps Water Management System (CWMS) models from regulated basins within the study area will be utilized as needed to route inflow and provide regulated vs unregulated flow information. CWMS is an automated information system used by the Corps to support its water control management mission.
- Development of an interagency team which will include USACE (MVS, MVP, and MVR), FEMA, USGS, NWS, NRCS, and state agencies from Missouri, Illinois, and Iowa.
- Internal review and coordination will be conducted within the HH&C CoPs from MVD and HQ, and with HEC, the USACE Climate Change team, and the USACE hydrology committee, as required. Additional outside expert assistance may also be required.
- Active UMRS Stakeholder communication, progress reporting and review opportunities will be provided throughout the study period.

In FY 2021, \$180,000 in funding was provided through an on-going Lower Mississippi River Basin Flow Frequency Study to develop an advanced scope of work for the UMR Flow Frequency Study. The UMR is a major contributor to the flows on the Lower Mississippi River, and any data developed from the UMR flow frequency study must be consistent and compatible with this on-going study. In FY 2022, an additional \$200,000 in combined funding through the Lower Mississippi River Basin Flow Frequency Study and Floodplain Management Services (FPMS ) was provided to continue coordination and complete Phase I of the study. In FY 2023, partial funding was received for the study once again via Mississippi River and Tributaries project, with a total allocation of \$150,000.

## Additional Information

### Congressional Interest

All within the Rock Island, Saint Paul, and Saint Louis Districts

### Authority

FY 2023 and beyond – Water Resources and Development Act (WRDA) 2022 Sec. 8219

## Summarized Project Costs

Estimated Federal Cost	\$3,600,000
Estimated Non-Federal Cost	\$0
Estimated Total Project Cost	\$3,600,000
Allocations Prior to FY 2024	\$765,000
FY 2024 Allocation	\$1,000,000
FY 2024 Total Capability	\$1,000,000
FY 2025 President's Budget	\$0

## Major Work Item Prior Year

**FY 2023:** The project advanced Phase I of the study. Major activities included completion of data inventorying, near



US Army Corps  
of Engineers  
Rock Island District

# Upper Mississippi River Flow Frequency Study

completion of the ECB 2018-14 climate assessment, and development of a draft Hydrologic Engineering Management Plan (HEMP).

## Major Work Item Current Year

**FY 2024:** The \$1,000,000 recently appropriated through the FY 2024 Community Project Funding will allow the study team to complete the remainder of Phase I activities and approximately half of Phase II activities. The following two scope of work tables provide a general description and status of Phase I and Phase II activities for the ongoing UMRS Flow Frequency Study.

### Scope of Work: Phase I

Task	Progress
<b>Task No. 1A - Data Collection</b>	<b>Substantially Complete</b>
Watershed Context	Substantially Complete
Data Inventory	Substantially Complete
Inventory of Existing Analysis	Complete
<b>Task No. 1B - Climate Assessment Part 1</b>	<b>Complete</b>
<b>Task No. 1C - HEMP Development</b>	<b>In-Progress</b>
Definition: Period of Record	Substantially Complete
Study Extents: Mainstem & Tributaries	Substantially Complete
Approach to Flow-Frequency Analysis	Not Yet Started
Need for Mixed Population Analysis	Not Yet Started
Approach to Defining Local Flows	In-Progress
Identify Significant Sources of Regulation	In-Progress
Approach to Hydraulic Profile Development	Substantially Complete
Approach to Hydraulic Modeling	Complete
Levee Breach Assumptions	Substantially Complete
Approach to Tributary Frequency Analysis	Not Yet Started
Hysteresis Assumptions	Complete
MVP Hydraulic Model Testing - NEW	Substantially Complete
Final USACE Experts Buy-in	Not Yet Started
Documentation	In-Progress
Quality Control Plan	Not Yet Started
DQC	Not Yet Started
ATR	Not Yet Started
Federal and State Partner Review	Not Yet Started
Public Review	Not Yet Started

### Scope of Work: Phase II

Task
<b>Task No. IIA - Hydraulic Routing Model</b>
Update HEC-RAS Version
Setup RAS- Continuous Simulation
HEC-RAS Boundary Conditions
HEC-RAS Verification
Refine Study Extents
Documentation
<b>Task No. IIB - Homogenous Flow Records</b>
Reservoir Inflow Records
Record Extension
Hydrologic Routing Model
Local Flows
Homogenous Records
Reservoir/Levee Impacts
Documentation
DQC
ATR
<b>Task No. IIC- Climate Assessment Part II</b>
Unregulated Analysis
Attribution
Residual Risk
Opportunities for Future Study
Documentation
District Quality Review
Agency Technical Review

Work associated with Phase III of the study will not commence until sometime in FY 2025 and wrap up by the end of FY 2026. The scope of work table below provides a general description of Phase III activities.

### Scope of Work: Phase III

Task
<b>Task No. IIIA - Frequency Analysis</b>
Mainstem All-Seasons Analytical Flow-Frequency
Mainstem Partial Duration Analysis
Mainstem Graphical Flow Frequency Analysis
Mixed Population vs. All-Seasons Analysis
Major Tributary Analysis
Synthesis of Results
Review
<b>Task No. IIIB - Development of Hydraulic Profiles</b>
Rating Curve Method for Mississippi
Direct Modeling Method for Illinois
Review

## **ATTACHMENT E**

### **USACE Memo Regarding Navigation and Ecosystem Sustainability Program Advisory Panel**

**(5-2-2024) *(E-1 to E-3)***



DEPARTMENT OF THE ARMY  
U.S. ARMY CORPS OF ENGINEERS  
441 G STREET, NW  
WASHINGTON, DC 20314-1000

CECW-MVD

02-May-24

MEMORANDUM FOR Commander, Mississippi Valley Division, U.S. Army Corps of Engineers

SUBJECT: Proposal for Appointing and Convening the Navigation and Ecosystem Sustainability Program (NESP) Advisory Panel under Title VIII of the Water Resources Development Act of 2007 (WRDA 2007).

1. References:

a. CEMVR-PM memorandum (Proposal for Appointing and Convening the NESP Advisory Panel), 23 March 2023 (enclosure)

b. Assistant Secretary for the Army (Civil Works) Memorandum dated July 2, 2008, subject: Implementation Guidance (IG) for Upper Mississippi River and Illinois Waterway (UMR-IWW) System - Title VIII of the Water Resources Development Act (WRDA) of 2007.

2. Purpose. The proposal (reference 1.a.) provides recommendations on how the NESP Advisory Panel would be established, its specific roles and responsibilities, how it will operate in conjunction with the role of the Assistant Secretary for the Army (Civil Works) (ASA(CW)), and how it would be funded. This memorandum and attachments meet the requirements of Title VIII of WRDA 2007 Section 8004 (g)(2). The attachments include the Proposal for the Advisory Panel; Solicitation and Evaluation Process for Non-Governmental Organization Positions; Sample Letter to State and Federal Candidates (Draft); and Sample Letter to Non-Government Candidates (Draft).

3. Background. The dual-purpose navigation and ecosystem restoration plan for the UMR-IWW system was authorized by Title VIII of WRDA 2007 substantially in accordance with the plan in the report of the Chief of Engineers, dated 15 December 2004. Reference 1.b. provides the Implementation Guidance to carry out the recommended plan. Section 8004 (g) (2) of WRDA 2007, directs the Secretary to appoint and convene an Advisory Panel to provide independent guidance in the development of the implementation report specific to ecosystem restoration. The authority to appoint and convene the Advisory Panel is retained by the Secretary of the Army and should be established based on the following considerations.

a. The panel shall include one representative of each of the five States' resource agencies or a designee of the Governor of the State; one representative of the Department of Agriculture; one representative of the Department of Transportation; one

CECW-MVD

SUBJECT: Proposal for Appointing and Convening the Navigation and Ecosystem Sustainability Program (NESP) Advisory Panel under Title VIII of the Water Resources Development Act of 2007 (WRDA 2007)

representative of the United States Geological Survey; one representative of the United States Fish and Wildlife Service; one representative of the Environmental Protection Agency; one representative of affected landowners; two representatives of conservation and environmental advocacy groups and two representatives of agriculture and industry advocacy groups for a total of 16 members. The Secretary of the Army representative will be the chairperson of the Advisory Panel.

b. The Advisory Panel and any working groups established by the Advisory Panel will not be considered an advisory committee under the Federal Advisory Committee Act. While the panel is described as providing implementing guidance for the implementation report, Section 8004(h) of WRDA 2007 also indicates that the Advisory Panel will, in consultation with the Secretary of the Army, develop a system to rank proposed projects. The ranking system will give greater weight to projects that restore natural river processes. The vertical study team will consider the Advisory Panel's role in establishing the institutional framework for project implementation. The Advisory Panel role does not have to be limited to the functions specified in Title VIII.

c. Independent guidance will be interpreted as independent from the U.S. Army Corps of Engineers and does not mean that Advisory Panel members cannot be otherwise involved in planning, evaluation, and implementation of the ecosystem restoration plan.

4. NESP has received Preconstruction Engineering and Design funds in recent work plans, which allowed design work to commence on Lock and Dam 22 Fish Passage. NESP received funding in the Bipartisan Infrastructure Law to complete design and initiate construction in fiscal year 2022. The first Project Implementation Report (PIR) was approved on 01 June 2022 by LTG Spellmon. This PIR is the first of a series of projects to restore longitudinal habitat connectivity for many species of native migratory fish in the UMR as a part of NESP.

5. Recommendation. At this time, I do not recommend endorsement of the proposal on appointing and convening the Advisory Panel per the attached plan.

- a. The previous request for the establishment of the NESP Advisory Panel was not approved due to inconsistent funding.
- b. While NESP has received several years of funding due to congressionally directed project funding, the Program is not in the President's budget.
- c. The NESP Advisory Committee will require a separate line item to fund all USACE activities including personnel time and mandatory training requirements. This funding has not been appropriated to date.
- d. In the absence of the NESP Advisory Panel, the NESP Ecosystem developed a framework to recommend projects that provide the most environmental benefits through engagement with authorized consultation partners referred to as the


CECW-MVD

SUBJECT: Proposal for Appointing and Convening the Navigation and Ecosystem Sustainability Program (NESP) Advisory Panel under Title VIII of the Water Resources Development Act of 2007 (WRDA 2007)

NESP Consultation Committee or NESP Board', technical experts, and other interested stakeholders including NGOs and Tribal Nations. All Ecosystem Restoration projects are selected by USACE for implementation in alignment with the Federal Advisory Committee Act.

- e. USACE may seek assistance from the Program Integration Division for future appropriations to support the NESP Advisory Panel.

6. My point of contact for this action is Ms. Karla Roberts, Deputy Chief, Mississippi Valley, and Southwestern Divisions Regional Integration Teams. She can be reached at (202) 309-7460 or [karla.a.roberts@usace.army.mil](mailto:karla.a.roberts@usace.army.mil).

 Edward E. Belk, Jr PE  
2024.05.02 18:24:58  
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EDWARD E. BELK, JR. P. E.  
Director of Civil Works



## ATTACHMENT F

### **USACE Agency Specific Procedures for Principles, Requirements, and Guidelines**

- Proposed Rule (2/15/2024) (*F-1 to F-40*)
- Rule Website:  
<https://www.regulations.gov/docket/COE-2023-0005>

**DEPARTMENT OF DEFENSE**

**Department of the Army, Corps of Engineers**

**33 CFR Part 234**

[Docket ID: COE–2023–0005]

RIN 0710–AB41

**Corps of Engineers Agency Specific Procedures To Implement the Principles, Requirements, and Guidelines for Federal Investments in Water Resources**

**AGENCY:** U.S. Army Corps of Engineers (Corps), Department of Defense (DoD).

**ACTION:** Proposed rule.

**SUMMARY:** This proposed rule establishes Agency Specific Procedures (ASPs) for the Corps’ implementation of the Principles, Requirements, and Guidelines for water resources investments. It provides a framework to govern how the Corps would evaluate proposed water resource investments, including identification of which Corps programs and activities are subject to the Principles, Requirements, and Guidelines. The Corps is proposing this rule in response to congressional direction provided in authorizing language in the Water Resources Development Act of 2020.

**DATES:** Comments must be received on or before April 15, 2024.

**ADDRESSES:** You may submit comments, identified by docket number COE–2023–0005, using any of these methods:

1. *Federal eRulemaking Portal:* <http://www.regulations.gov>. Follow the instructions for submitting comments.
2. *Email:* [stacey.m.jensen.civ@army.mil](mailto:stacey.m.jensen.civ@army.mil) and include the docket number, COE–2023–0005, in the subject line of the message.
3. *Mail:* Stacey M. Jensen, 108 Army Pentagon, Room 3E474, Washington, DC 20310–0108.
4. *Hand Delivery/Courier:* Due to security requirements, we cannot receive comments by hand delivery or courier.

*Instructions:* Direct your comments to docket number COE–2023–0005. The public docket will include all comments exactly as submitted and without change and may be made available online at <http://www.regulations.gov>. This will include any personal information provided, unless the commenter indicates that the comment includes information claimed to be Confidential Business Information (CBI) or other information where disclosure is restricted by statute. Do not submit information that you consider to be CBI,

or otherwise protected, through [regulations.gov](http://www.regulations.gov) or email. The [regulations.gov](http://www.regulations.gov) website is an anonymous access system, which means we will not know your identity or contact information unless you provide it in the body of your comment. If you send an email directly to the Corps without going through [regulations.gov](http://www.regulations.gov), your email address will be automatically captured and included as part of the comment placed in the public docket and made available on the internet. If you submit an electronic comment, we recommend that you include your name and other contact information in the body of your comment and with any disk or CD–ROM you submit. If we cannot read your comment because of technical difficulties and cannot contact you for clarification, we may not be able to consider your comment. Electronic comments should avoid the use of any special characters, any form of encryption, and be free of any defects or viruses.

*Docket:* For access to the docket to read background documents or comments received, go to <http://www.regulations.gov>. All documents in the docket are listed. Although listed in the index, some information is not publicly available, such as CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the internet and will be publicly available only in hard copy form.

**FOR FURTHER INFORMATION CONTACT:** Ms. Stacey M. Jensen, Acting Director for Policy and Legislation, Office of the Assistant Secretary of the Army (Civil Works), 108 Army Pentagon, Washington, DC 20310–0108, at (703) 459–6026 or [stacey.m.jensen.civ@army.mil](mailto:stacey.m.jensen.civ@army.mil).

**SUPPLEMENTARY INFORMATION:**

**A. Background**

Since the Rivers and Harbors Appropriations Act of 1903 (Pub. L. 57–154), the Corps has been required to consider the benefits of water resources investments in relation to their costs. The Flood Control Act of 1936 (Pub. L. 74–738) called for the Federal government to improve navigable waters or their tributaries for flood control purposes if the benefits to whomever they may accrue are in excess of the estimated costs. Since then, the Corps has been developing tools and methods for developing and evaluating water resource plans and projects.

Multi-objective water resource planning concepts on a comprehensive

and nationally coordinated basis were central to the Water Resources Planning Act of 1965 (Pub. L. 89–80) and were reflected in Federal guidance, the Principles and Standards for Planning Water and Related Land Resources (P&S), issued by the Water Resources Council in 1973 (38 FR 24778). The Water Resources Council was established by the Water Resources Planning Act of 1965 (Pub. L. 89–90) to assess and make recommendations on national water-related matters and policies (further information can be found at 18 CFR 701.3). The P&S reflected two Federal objectives for water resources planning, which were to enhance national economic development and to enhance the quality of the environment.

Federal water policy moved away from this dual-objective concept with the 1983 Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies (P&G).<sup>1</sup> The P&G combined the two objectives of the P&S into a single, integrated Federal objective, which was “to contribute to national economic development consistent with protecting the Nation’s environment, pursuant to national environmental statutes, applicable executive orders, and other planning requirements”. The Water Resources Council developed the P&G to guide the formulation and evaluation of alternatives in the project planning studies of four of the Federal water resources agencies, including the Corps. The Corps has implemented the P&G since 1983. The P&G provides that contributions to national economic development (NED) are the increases in net value of the national output of goods and services, expressed in monetary units. It also provides that contributions to NED are the direct net benefits that accrue in the planning area and the rest of the Nation.

In the P&G, four accounts were established to facilitate evaluation and display of effects of alternative plans. The only required account is the NED account. The other three accounts were: the environmental quality account, which displays nonmonetary effects on significant natural and cultural resources; the regional economic development (RED) account, which registers changes in the distribution of regional economic activity that result from each alternative plan; and the other social effects account, which registers plan effects from those other perspectives that are relevant to the

<sup>1</sup> [https://planning.ercd.dren.mil/toolbox/library/Guidance/Principles\\_Guidelines.pdf](https://planning.ercd.dren.mil/toolbox/library/Guidance/Principles_Guidelines.pdf), last accessed on January 31, 2024.

planning process, but are not reflected in the other accounts. Under the P&G, the Assistant Secretary of the Army for Civil Works (ASA(CW)) may grant an exception to allow the Corps to recommend a plan that is not the NED plan. In addition, each alternative plan must be formulated in consideration of four criteria: completeness, effectiveness, efficiency, and acceptability.

In 1981, the Water Resources Council chairman requested reduced Council funding. The action was consistent with the Reagan Administration's position that states should play a more active role in water policy activities. All the organizational and staff planning functions of the Council and basin commissions were disbanded, and the revised set of "Principles and Guidelines" were issued in 1983 as one of the last formal actions of the Council. Although the Water Resources Planning Act has not been repealed and thus authorization of the Council remains statutorily, no funding for the Council has been appropriated since 1983 (CRS Report, May 11, 2009).<sup>2</sup>

Section 2031 of the Water Resources Development Act of 2007 (WRDA 2007) (Pub. L. 110–114 section 2031, 42 U.S.C. 1962–3) established a National Water Resources Planning Policy. The National Water Resources Planning Policy states that all water resource projects should reflect national priorities, encourage economic development, and protect the environment by: (1) seeking to maximize sustainable economic development; (2) seeking to avoid the unwise use of floodplains and flood-prone areas and minimizing adverse impacts and vulnerabilities in any case in which a floodplain or flood-prone area must be used; and, (3) protecting and restoring the functions of natural systems and mitigating any unavoidable damage to natural systems.

Section 2031 of WRDA 2007 also called for the Secretary of the Army to revise the 1983 P&G for use by the Corps in the formulation, evaluation, and implementation of water resources projects. WRDA 2007 required that these revisions to the P&G address the following: the use of best available economic principles and analytical techniques, including techniques in risk and uncertainty analysis; the assessment and incorporation of public safety in the formulation of alternatives and recommended plans; assessment methods that reflect the value of

projects for low-income communities and projects that use nonstructural approaches to water resources development and management; the assessment and evaluation of the interaction of a project with other water resources projects and programs within a region or watershed; the use of contemporary water resources paradigms, including integrated water resources management and adaptive management; and evaluation methods that ensure that water resources projects are justified by public benefits.

In 2014, the Council on Environmental Quality (CEQ) completed an interagency effort to update the 1983 P&G, which became effective on June 15, 2015 (79 FR 77460). This effort resulted in the Principles, Requirements and Guidelines (PR&G). CEQ developed the PR&G through this interagency process to improve Federal decisions on investments in water resources by giving more prominence to ecological, public safety, environmental justice, and related concerns.

The PR&G, which govern how Federal agencies evaluate proposed water resource developments, include the following three components: (1) Principles and Requirements for Federal Investments in Water Resources (P&R, 2013,<sup>3</sup>) providing the overarching concepts that the Federal Government seeks to achieve through policy implementation and requirements for inputs into analysis of Federal investment alternatives; (2) Interagency Guidelines (IG, 2014,<sup>4</sup>) providing more detailed guidance for affected Federal agencies, including the Departments of the Interior, Agriculture, and Commerce, Environmental Protection Agency (EPA), the Corps, the Federal Emergency Management Agency (FEMA), and the Tennessee Valley Authority, for determining the applicability of the P&R; and (3) agency specific procedures (ASPs) providing agency specific guidance for identifying which programs and activities are subject to the PR&G. The Corps has not issued final ASPs to implement the 2013 PR&G.

Section 110 of the Water Resources Development Act of 2020 (WRDA 2020) (Division AA of Pub. L. 116–260) directs the Army to issue its final ASPs necessary for the Corps' Civil Works program to implement the PR&G. Section 110 of WRDA 2020 also provides that the Army must develop

Corps projects in accordance with the PR&G as well as Section 2031 of WRDA 2007. The WRDA 2020 directs Army to provide notice and opportunities for engagement and public comments on the development of the ASPs. The Army is pursuing this rulemaking to provide codified direction for the Corps project planning process, which will achieve the purposes of the PR&G, with input from a robust and meaningful Tribal and public engagement. This proposed rule follows the general framework laid out in the PR&G. The Corps also reviewed and considered the ASPs developed by other Federal agencies in developing this proposed rule. This rulemaking seeks to formalize the planning framework of the Corps under the PR&G in a transparent manner, by providing the public an opportunity to comment on the proposed new planning paradigm and its requirements. The proposed ASPs would apply to plans, projects, or programs that are initiated after any final rule may take effect. The Corps would also apply the ASPs to plans, projects, or programs that have not yet issued a Draft Environmental Impact Statement or similar level of documentation on or before any final rule effective date. Note that Army, through the Assistant Secretary of the Army for Civil Works, is responsible for policy direction and oversight of the Army's Civil Works program, whereas the Corps has the lead in implementing the program. Hence this document refers both to the Army (for policy direction) and the Corps (for implementation responsibility). Although the proposed rule uses the language "water resources development project", which is consistent with the statutory language of section 110 of the Water Resources Development Act of 2020, and is the terminology generally used in Corps statutes and regulations, the Corps does acknowledge that its role has evolved over the years to include developing, managing, restoring, and protecting water resources. A more appropriate term to use throughout would be "water resources projects" rather than "water resources development projects." Consistent with this approach, section 2031 of the Water Resources Development Act of 2007, the 2013 P&R, and the 2014 Interagency Guidelines (IG) refer to "water resources projects". The proposed rule uses "water resources development projects," which is the term that the Corps traditionally has used. The Army solicits comment on this issue.

The Army received input from Tribes, Federal and State agencies, stakeholders, and other interested

<sup>2</sup> [https://aquadoc.typepad.com/files/crs\\_report\\_35\\_years\\_water\\_policy\\_1973nwc\\_challenges\\_11may2009.pdf](https://aquadoc.typepad.com/files/crs_report_35_years_water_policy_1973nwc_challenges_11may2009.pdf), last accessed on January 31, 2024.

<sup>3</sup> [https://obamawhitehouse.archives.gov/sites/default/files/final\\_principles\\_and\\_requirements\\_march\\_2013.pdf](https://obamawhitehouse.archives.gov/sites/default/files/final_principles_and_requirements_march_2013.pdf), last accessed January 31, 2024.

<sup>4</sup> [https://obamawhitehouse.archives.gov/sites/default/files/docs/prg\\_interagency\\_guidelines\\_12\\_2014.pdf](https://obamawhitehouse.archives.gov/sites/default/files/docs/prg_interagency_guidelines_12_2014.pdf), last accessed January 31, 2024.

parties through the issuance of the **Federal Register** Notice of Virtual Public and Tribal Meetings Regarding the Modernization of Army Civil Works Policy Priorities; Establishment of a Public Docket; Request for Input (Modernize Civil Works) that was published on June 3, 2022 (87 FR 33756). This Notice solicited public comment on topics including the ASPs being considered for this proposed rulemaking. In response to the Notice, we received generally supportive comments on the policy revision concepts outlined in the Notice and the comments recognized the value of using more modern approaches for decision making. Many commenters mentioned the need to consider a broader set of benefits than can be captured by the Corps' traditional NED account, and many endorsed the effort to more fully incorporate climate change, to increase collaboration with Tribal, state, and local organizations, and to better incorporate the potential ecosystem costs and benefits of water resources investments.<sup>5</sup>

For ease of comment review and consideration, commenters should consider referencing a specific section or paragraph of the proposed rule and preamble when providing comments. In addition to solicitation on specific areas identified in the preamble, the Corps solicits comments in general on issues or concerns related to this proposed rule which are not specifically identified in the proposal. For these comments, the commenter should clearly state the issue or concern, provide or reference any supporting documentation (e.g., reports, statistical data, and studies), and make a proposal or recommendation about how to improve the proposed regulation.

## B. Overview of Proposed Rule

To promote alignment across the Federal government in the implementation of the PR&G, Army opted to use the Department of Interior's (DOIs) ASPs as a basis for development of the Corps' ASPs. DOIs ASPs were released in 2015 and guide the Bureau of Reclamation in water resources investments that have similarities to Corps water resources investments. Other agencies with approved ASPs such as EPA, FEMA, and the Natural Resources Conservation Service make investments in water infrastructure that are less similar, although Army did

review those agencies' ASPs for background and for areas where consistency would be appropriate.

Two key concepts in the PR&G are "Federal investment" and "public benefit." While the P&G applied to the planning and evaluation of alternative plans in the formulation and evaluation of water and related land resources implementation studies, the PR&G does not merely apply to studies, but rather focuses on Federal water resources investments, including projects, plans, and programs that the Federal government undertakes whose purposes either directly or indirectly alter water quantity, quality, ecosystems, or related land management. The level of a given Federal investment would be determined on a present value basis over the life of the Federal investment and the net public benefits of an investment would be assessed and used to guide Federal decision making. Federal water resources investments should strive to achieve water resources goals and maximize discounted net public benefits, with appropriate considerations laid out in the PR&G. These concepts are described in further detail in this preamble. The proposed rule ASPs provide a framework for the Corps to be used for projects, plans, and programs, and in the planning process, in implementing the PR&G for water resources investments.

## C. Proposed Sections

**Section 234.1 General.** This section of the proposed rule describes the background on development of the PR&G as well as the authority for the development of the Corps' ASPs as described in the Background section of this preamble. Nothing in this proposed rule would change any other legal requirements to which the Corps is subject (e.g., applicable WRDA provisions).

**Section 234.2 Definitions.** This section provides proposed definitions for relevant terms used in the ASPs. The Army solicits input on additional terms that need to be defined or whether the definitions proposed require additional clarity.

**Section 234.2(a) Acceptability.** This paragraph provides a definition for acceptability. This definition is provided in the P&R. Acceptability is one of four criteria to be considered when formulating an alternative. Acceptability takes into consideration the general public's perspectives in the determination of an alternative's viability and appropriateness and ensures consistency with existing Federal laws, authorities, and public policies.

**Section 234.2(b) Adaptive management.** This paragraph provides a definition for adaptive management. This definition is provided in the P&R and describes the process to address changes, uncertainty, and maximization of goals over time. Adaptive management should be incorporated into alternatives, where warranted, to address risk and uncertainty.

**Section 234.2(c) Completeness.** This paragraph provides a definition for completeness. This definition is provided in the P&R and describes when an alternative is complete enough to realize the planned effects. Completeness does not equate to a particular scope or scale to be considered complete. Completeness is one of four criteria to be considered when formulating an alternative.

**Section 234.2(d) Effectiveness.** This paragraph provides a definition for effectiveness. This definition is provided in the P&R and describes that an alternative is effective when it alleviates the specific problems and achieves the specified opportunities. Effectiveness is one of four criteria to be considered when formulating an alternative.

**Section 234.2(e) Efficiency.** This paragraph provides a definition for efficiency. This definition is provided in the P&R and describes the extent to which a Federal investment is efficient such that an alternative may alleviate the specified problems and realizes the specific opportunities at the least cost. Efficiency is similar to effectiveness with the additional element of cost consideration. The P&R also describes how the Federal investment should promote water efficiency to the extent possible when considering water use. Efficiency is one of the four criteria to be considered when formulating an alternative.

**Section 234.2(f) Federal investment.** This paragraph provides a definition for Federal investment. The ASPs for implementing the PR&G are intended to assist in designing and evaluating potential Corps investments in water resources. Federal investments as used in PR&G is broad and intended to capture a wide array of activities (e.g., projects, programs, and plans) that the Federal government directly undertakes relating to water resources. This proposed definition is specific to the Corps' potential Federal investments. The P&R does not define Federal investments. The P&R includes Federal investments that affect water quality or water quantity. However, using this language may result in confusion. The Corps has three main Civil Works mission areas (commercial navigation,

<sup>5</sup> Summary document of comments received in response to the **Federal Register** Notice can be found at <https://api.army.mil/e2/c/downloads/2022/12/01/d5bd08a7/written-comment-summary-for-prg-for-frn-to-modernize-civil-works.pdf>, last accessed January 31, 2024.

flood and storm risk reduction, and aquatic ecosystem restoration) and generally will not propose a project whose primary purpose is outside of these main missions. Many Corps flood risk management projects can be said to affect “water quantity” indirectly, insofar as they alter the timing and way that water flows in a flood. Similarly, many of the dams that the Corps has constructed (primarily to reduce flood risks or facilitate commercial navigation) also can be said to affect “water quantity” insofar as they store water to serve ancillary purposes such as hydropower, fish and wildlife, recreation, and water supply. With this in mind, the Army invites comments on whether the language provided in the P&R or other language on this issue should be included in the rule definition.

Section 234.2(g) Federal objective. This paragraph provides a definition for Federal objective, which is the conceptual goal of Federal investments in water resources. This basic definition is provided in the P&R but originates in the WRDA 2007 where it is further detailed in Section 2031 and can be found in this proposed regulation at section 234.1(b). The Corps would develop investment alternatives based on the Federal objective. The Federal objective should result in investments which provide various public benefits, including community resilience.

Section 234.2(h) Indigenous Knowledge. This paragraph provides a definition for Indigenous Knowledge based on the Guidance for Federal Departments and Agencies on Indigenous Knowledge<sup>6</sup>. Indigenous Knowledge shall be considered in and used to inform all aspects of the Corps’ ASPs, where relevant and applicable.

Section 234.2(i) Nature-based alternatives. This paragraph provides a definition for nature-based alternatives. The proposed definition aligns with and generally adopts the definition provided in the Opportunities to Accelerate Nature-based Solutions: A Roadmap for Climate Progress, Thriving Nature, Equity, & Prosperity<sup>7</sup> issued by the Council on Environmental Quality, the Office of Domestic Climate Policy, and the Office of Science and Technology Policy. Consistency with this document is important to ensure the Corps approach aligns with the other Federal water resources agencies involved in nature-based solutions. Section 1184 of

WRDA 2016 provided definitions of “natural feature” and “nature-based feature” specific to providing risk reduction. This authorization requires the Corps to consider such features, as appropriate, in its feasibility studies for flood risk management, hurricane and storm damage reduction, and ecosystem restoration projects, with the consent of the non-Federal interest. Section 1149 of WRDA 2018 modified Section 1184 of WRDA 2016 to include additional direction to the Corps on the inclusion of such features in flood risk management, hurricane and storm damage reduction, and aquatic ecosystem restoration projects. Section 116 of WRDA 2020 requires the Corps to document the consideration of natural and nature-based alternatives in the study of flood risk management and hurricane and storm damage reduction, including estimates of long-term costs and benefits of such alternatives. Under the proposed regulation, a nature-based alternative is entirely comprised of nature-based features. The Corps would include for consideration in the final array of alternatives a nature-based alternative, if feasible. Where a nature-based alternative is not feasible or would not be fully effective, the Corps would consider including in the final array an alternative that includes nature-based solutions along with other features. The Army recognizes that nature-based solutions have an important place for consideration in Civil Works projects but may not be appropriate in all circumstances as a way to address the subject water resources problems. For example, other considerations in the proposed ASPs may result in the maximization of public benefits being achieved through an alternative method. The Corps would focus on results-driven solutions as opposed to dictating one specific method over another for addressing the water resources solution at hand, with appropriate consideration of the net benefits. In addition, nature-based solutions as components of the other alternatives included in the final array and as part of any final recommendation as part of a comprehensive solution are encouraged.

Section 234.2(j) Non-Federal interest. This paragraph provides a definition for the non-Federal interest. The proposed definition is taken from 42 U.S.C. 1962d–5(b). The P&R uses the term “local interest” and does not define “non-Federal interest.” The P&R definition of local interest is a non-Federal entity with some level of oversight or implementation responsibility associated with a water

resources investment. Under the P&R, the local interest could be a community or a state or local government agency, for example. For Corps projects, this generally would be the non-Federal interest. For clarity on the Corps Civil Works process and consistency with who can legally be a partner on Corps projects and/or be responsible for operation and maintenance, as well as to tailor the PR&G to the Corps processes, the Army is proposing to use the term “non-Federal interest” rather than “local interest” in the proposed regulation. However, the Army intends for the non-federal interest to fill the role of the local interest as identified in the PR&G. For many of the flood risk management projects that the Corps constructs, the non-federal interest owns the project and is responsible for its operation and maintenance after construction. The non-federal interest generally also is the cost-share partner on the project, which includes having a level of oversight and implementation responsibility as envisioned in the P&R definition of local interest. The Army solicits comments on whether equating the non-federal interest with the local interest is an appropriate approach for implementation of this provision of the PR&G. The P&R provides that an alternative plan, strategy, or action that is preferred by a local interest with oversight or implementation responsibilities must be included in the final analysis. Similarly, this proposed regulation provides that an alternative that is locally preferred (*i.e.*, the alternative preferred by the non-federal interest) must be included in the final array of alternatives. The Army also recognizes that the planning process is shared with the non-Federal interest and solicits recommendations on how best the ASPs can incorporate and identify the role of the non-Federal interest in the process.

Section 234.2(k) Nonstructural alternative. This paragraph provides a definition for nonstructural alternative. A nonstructural alternative is entirely comprised of nonstructural approaches. The proposed regulation would require the Corps to include for consideration in the final array of alternatives a nonstructural solution, if feasible. Where a nonstructural solution is not feasible or would not be fully effective, the Corps would include for consideration in the final array an alternative that is primarily nonstructural, if feasible.

Section 234.2(l) Nonstructural approaches. This paragraph provides a definition for nonstructural approaches. This definition is provided in the P&R; however, illustrative examples were

<sup>6</sup> <https://www.whitehouse.gov/wp-content/uploads/2022/12/OSTP-CEQ-IG-Guidance.pdf>, last accessed January 31, 2024.

<sup>7</sup> <https://www.whitehouse.gov/wp-content/uploads/2022/11/Nature-Based-Solutions-Roadmap.pdf>, last accessed January 31, 2024.

added for clarity. These examples are not intended to be limiting but instead provide a sense of the types of actions which fall under nonstructural approaches. The Army solicits comment on whether these are appropriate examples and context for the term “nonstructural” or whether modifications should be made to any final definition or list. The nonstructural approaches are intended to apply across the Corps missions and activities that are subject to the PR&G. Nonstructural approaches are methods and practices employed to alter the use of existing infrastructure through human activities as opposed to altering physical interaction of water and land. Nonstructural approaches can include things like policy modifications or floodproofing of existing infrastructure. Alternatively, structural approaches would include things such as new construction of water resources infrastructure or structural modification to enlarge an existing dam or levee. As referenced under the nature-based alternative definition discussion in the preamble, various WRDA provisions require the Corps to incorporate nonstructural and nature-based solutions in plan formulation. Army solicits comment on whether this proposed definition best meets or enables the implementation of the PR&G to achieve long-term planning goals and objectives of the PR&G, including the avoidance of the unwise use of floodplains and the Guiding Principle of healthy and resilient ecosystems.

Section 234.2(m) Public benefits. This paragraph provides a definition for public benefits. Public benefits encompass economic, environmental, and social benefits, and include those that can currently be quantified in monetary terms, as well as those that can be quantified or described qualitatively. The PR&G provides for the maximization of public benefits relative to costs. This definition is provided in the P&R. In comparison, the P&G Federal objective of water and related land resources project planning is to contribute to national economic development (NED) (or national ecosystem restoration (NER) for aquatic ecosystem restoration), consistent with protecting the Nation’s environment, pursuant to national environmental statutes, applicable executive orders, and other Federal planning requirements. Contributions to NED under P&G are increases in the net value of the national output of goods and services, expressed in monetary units and are the direct net benefits that accrue in the planning area and the rest

of the Nation. Contributions to NED include increases in the net value of those goods and services that are marketed, and also of those that are not marketed.

A particular alternative may create changes that result in benefits in more than one benefit category; however, the Corps would assign the benefits to the most appropriate category and thereby avoid double counting. The definition is not intended to be construed as privately driven benefits, but rather for the general public reflecting the goals of the nation. Typically, public benefits (like public goods) are available to all (nonexcludable) and are non-rivalrous. Generally, these benefits are intended to accrue to society as a whole and not solely for the benefit of certain private persons or entities, although private persons or entities may ultimately benefit (e.g., reduction in private property damages as a result of a coastal storm risk management project). Cost-savings to industry as a whole (e.g., navigation industry), for example, benefit society and therefore would be accounted for in the analysis. In addition, avoided property damages and life safety would also be accounted for as public benefits although they benefit individuals as well. Benefits which may be viewed as more local in nature are reflected in the ASPs through the use of the watershed-based approach that considers the benefits of water resources for a wide range of stakeholders within and around the watershed, through collaboration and coordination with communities and local governments, as well as including the locally preferred alternative identified in the final array. The Army solicits comment on how benefits to Tribal Nations should be described, such as whether benefits to Tribal Nations should be considered as a Federal trust responsibility, and whether Tribal Nation benefits should be called out separately from the overarching “public benefits.”

Section 234.2(n) Regulatory. This paragraph provides a definition for regulatory. This definition is provided in the P&R and is a general definition of actions which are regulatory in nature promulgated by the Federal government. Regulatory can include the promulgation of regulations as well as other activities such as permit decisions.

Section 234.2(o) Resilience. This paragraph provides a definition for resilience. This definition is provided in the P&R and can be applied to many different areas within the proposed rule such as climate resilience, including grid resilience when relevant, ecosystem resilience, and water resilience,

regarding how climate, ecosystems, and water responds to changes. The resilience of a water resource solution should be considered in alternatives analysis and tradeoffs discussion. The Corps implements four principles related to resilience: prepare, absorb, recover, and adapt. There is also a definition provided for resilience in Executive Order 13653 (78 FR 66817), which the Corps currently uses in its Resilience Initiative.<sup>8</sup> The definition provides that resilience is the ability to anticipate, prepare for, and adapt to changing conditions and withstand, respond to, and recover rapidly from disruptions. This definition can have application to both natural and human-made entities. In addition, there is a definition of resilience provided in the National Climate Resilience Framework<sup>9</sup> as well as in M–24–03, Advancing Climate Resilience through Climate-Smart Infrastructure Investments and Implementation Guidance for the Disaster Resilience Planning Act.<sup>10</sup> The Army solicits comment on whether the resilience definition provided in the Executive Order or the National Climate Resilience Framework or M–24–03 should be included in the regulation instead of or in addition to the proposed definition. The Army also solicits comment on whether additional concepts from these documents should be included in the rule, and if so, in what manner related to the use of resilience in the rule. The usage of the Corps’ definition would be more efficient in implementation as it is familiar to the Corps and more directly relates to Corps missions; however, the proposed definition would be consistent with the PR&G and would apply resilience in a broader sense. There are areas discussed in the PR&G related to resilience that go beyond climate-related resilience.

Section 234.2(p) Sustainable. This paragraph provides a definition for sustainable. This definition is provided in the P&R and refers to the conditions where humans and nature are able to coexist. The P&R generally uses the term “sustainable” in the context of seeking to maximize sustainable economic development, which is one component to achieve the Federal objective. Investments in sustainable economic

<sup>8</sup> <https://www.whitehouse.gov/wp-content/uploads/2022/11/Nature-Based-Solutions-Roadmap.pdf>, last accessed January 31, 2024.

<sup>9</sup> <https://www.whitehouse.gov/wp-content/uploads/2023/09/National-Climate-Resilience-Framework-FINAL.pdf>, last accessed January 31, 2024.

<sup>10</sup> <https://www.whitehouse.gov/wp-content/uploads/2023/11/M-24-03-Advancing-Climate-Resilience-through-Climate-Smart-Infrastructure-Investments.pdf>, last accessed January 31, 2024.

development contribute to the Nation's resilience. The P&R also provides that alternative solutions should improve the economic well-being of the Nation through the sustainable use and management of water resources ensuring both water supply and water quantity. Sustainability would also incorporate the maximization of net benefits while fully considering the option of, and value of, preserving resources for future uses or non-uses, and fully considering the preferences of future generations through appropriate analytical timeframes and discount rates.

Section 234.2(q) Tribal Nation. This paragraph provides a definition for Tribal Nation. This definition is consistent with the Federal government's definition and identification of a Tribal Nation by the Secretary of Interior. This definition is also used and applied to other Corps programs, such as the Tribal Partnership Program. The Army recognizes that there are other Indigenous populations, Native Hawaiian Organizations, and non-federally recognized Tribes which may not meet the definition as proposed, and solicits comments on whether these populations should be defined separately for purposes of the PR&G. Regardless of definitions and legal authorities applied to the Civil Works programs, the Corps would ensure full outreach and coordination occurs with all Tribal Nations, Indigenous populations, Native Hawaiian Organizations, and non-federally recognized Tribes as relevant to a particular water resources investment as described in the preamble discussion under paragraph 234.6(d). Such outreach and coordination would be separate from government-to-government consultation requirements. Many of these include communities having environmental justice concerns. Environmental justice is one of the Guiding Principles of the PR&G and this proposed rule.

Section 234.2(r) Unwise use of floodplain. This paragraph provides a definition for unwise use of floodplain. This definition is provided in the P&R and describes conditions which result in a floodplain that is no longer self-sustaining. Seeking to avoid the unwise use of floodplains is also a component of how to achieve the Federal objective. The appropriate floodplain per this definition and application under the proposed ASPs is case-specific and should consider the scope and scale of the problem and potential benefits when determining the geographic boundary. Per the P&R, Federal actions should seek to reduce the Nation's vulnerability

to floods and storms. Unwise uses include those that would significantly increase or shift flood risks to other populated areas, or otherwise would result in net adverse impacts to human health, safety, welfare, property, natural resources, or the natural and beneficial functions of floodplains (e.g., natural water storage, water filtration, groundwater infiltration, sediment retention). The Army solicits comment on how evaluations of self-sustainment may occur in occupied or inhabited floodplains.

Section 234.2(s) Watershed. This paragraph provides a definition for watershed. This general definition for watershed is provided in the P&R and does not go into detail regarding a specific method or size to identify a watershed. Using a watershed approach is a Principle under P&R to ensure a more holistic view of the problem and potential solutions. The appropriate size of watershed to assess is case-specific and should consider the scope and scale of the problem and potential benefits when determining the geographic boundary.

Section 234.3 Exceptions. The proposed ASPs describe a way to request an exception to the rules or policies contained in the Corps' proposed ASPs. The exception must be submitted in writing and the decision-maker is the ASA(CW). As there are already proposed exemptions for the application of the PR&G laid out in the proposed rule as well as different levels of analysis proposed based on specific thresholds, the Army believes that exception requests would be a rare circumstance. In addition, since Army intends for PR&G to apply to those non-exempt programs and areas specified in the proposed rule, the ASA(CW) is the appropriate decision-maker level for approving exceptions.

Section 234.4 Objectives and applicability.

Section 234.4(a) Introduction. This paragraph of the proposed rule states the goals and objectives of the Corps' ASPs. The proposed rule would help ensure consistency and transparency in implementation of the PR&G by the Corps. The common framework provided in the ASPs will drive that consistency and codifying the ASPs in regulation would ensure transparency for the public, as well as an opportunity for review and comment prior to finalization through the rulemaking process. The Corps has various guidance documents for its water resources development project planning process, but the proposed ASPs would ensure all projects, plans, and programs subject to the PR&G are using the same Guiding

Principles and considerations in developing alternatives and recommendations. Upon finalization of any rule regarding the Corps' ASPs, the Corps would review its existing guidance documents and rescind, modify, or develop new guidance as needed to comport with and further the objectives of the Corps' ASPs. However, these proposed ASPs are intended to stand on their own regarding the overall framework and provide the guideposts for the Corps when implementing the PR&G. Comments are solicited which may help identify where additional details may be warranted in any final rule and preamble and where additional specific technical tools or methodologies may be warranted in follow-on Corps guidance documents.

Section 234.4(b) Objectives for Federal water resources investments. This paragraph of the proposed rule provides the Federal objective for Federal water resources investments as provided in WRDA 2007 (Pub. L. 110-114 section 2031, 42 U.S.C. 1962-3) and elaborates on the definition of Federal objective provided at 234.2(l). The WRDA 2007 also described more specifically how to accomplish the Federal objective. The Federal investments must reflect national priorities, encourage economic development, and protect the environment by seeking to maximize sustainable economic development; by seeking to avoid the unwise use of floodplains; and by protecting and restoring the functions of natural systems and mitigating unavoidable impacts. Consideration of the Guiding Principles and the application of the Requirements in P&R through development of Federal water resources investment decisions assists in achieving the Federal objective. The WRDA provision did not provide a hierarchy for how to accomplish the objective nor does this proposed rule.

National priorities may include general priorities (e.g., health and safety) but can also include more specific priorities that emerge and may evolve over time. There are also often multiple national priorities at any one time, all of which should be considered and reflected in Federal water resources investments to the extent relevant. Such priorities can be found in enacted laws and Administration priorities and are informed by stakeholder and community engagements. The Corps would also fulfill their Tribal trust responsibilities under applicable treaties.

For example, the PR&G calls for sustained economic development through building more resilient

communities. The Federal water resources investments also must protect and restore the environment, where applicable, as part of the effort to maximize net public benefits to society. This protection and restoration could be achieved partly via improvements made to the environment through the proposed action, compliance with applicable environmental laws and regulations, including/or through the avoidance, minimization, and mitigation sequencing applied to impacts to the water resources environment, and through assuring the greatest provision of ecosystem services achievable that protects public health and welfare.

One means to accomplish the Federal objective is to seek to maximize sustainable economic development. As described in the definitions section of the proposed rule at 234.2(y), sustainable economic development would provide the conditions where the coexistence of humans and nature flourishes. Sustainable economic development would improve the national welfare through investments that improve national economic efficiency, but not at the expense of the water resources. Rather, economic activity would proceed in such a manner that is not negatively impacting the sustainability of the water resources environment. In some cases, for example, nature-based solutions may be both more resilient and maximize net public benefits. The sustainable economic development Guiding Principle is further described in Section 234.6(c)(5) of the proposed rule and preamble.

In accordance with WRDA 2007, another means to accomplish the Federal objective is through seeking to avoid the unwise use of floodplains and flood-prone areas. This Guiding Principle is also further described in Section 234.6(c)(2) of the proposed rule and preamble. The key principle is to avoid actions that result in a reduction in public health and safety or result in a floodplain that is no longer self-sustaining. However, it is important to recognize that many Corps Civil Works water resources development projects are out of necessity located in floodplains and are not considered an unwise use of floodplains simply due to their location. The Corps will strive to sustain the floodplains natural and beneficial functions to the maximum extent practicable in light of the project's purpose. For example, public health and safety are considered in the evaluation and formulation development of a proposed Corps water resources development project, but this

sometimes may result in a project that does not fully contribute to the sustainment of floodplain natural and beneficial functions.

The last means to accomplish the Federal objective provides that the Corps shall protect and restore the functions of natural systems and mitigate any unavoidable damage to natural systems. This concept is embedded in the Corps' compliance with environmental laws and regulations, such as the Clean Water Act and NEPA. In general, the Corps aims to improve environmental conditions when possible, and when not possible, sequences consideration of mitigation related to potential damages as avoidance, minimization, and compensatory mitigation. Certain Corps water resources development projects have the goal to restore and protect aquatic ecosystems as their primary purpose, such as aquatic ecosystem restoration projects under Section 206 of WRDA 1996 (Pub. L. 104–303), as amended.

Section 234.4(c) Net public benefits. This paragraph of the proposed rule describes the net public benefits to society, which are to be maximized. Net public benefits are to be used to justify water resources development projects per WRDA 2007. Per the P&R, public benefits encompass three goals—economic, environmental, and social. In addition, public benefits include those that can be described in monetary terms, and those that can be quantified or described using other terms. The IG provides as a key aspect stating that the environmental, economic, and social impacts are interrelated, and there is no hierarchy among their goals in a PR&G analysis. In addition, the P&R provides that solutions to water resource needs may produce varying degrees of effects relative to environmental, economic, and social goals and that no hierarchal relationship exists among these three goals. As a result, tradeoffs among potential solutions will need to be assessed and communicated during the decision making process. All key benefits and effects relevant to the investment decision would be displayed and given consideration. For a particular water resources development project, the Corps study would take into consideration the given study purpose and specific water resource challenge to appropriately identify and assess benefits and effects across the categories which will naturally vary across Corps studies.

Federal investments in water resources have been mostly based on economic performance assessments under the P&G, which largely focus on

investments that will improve national economic efficiency. This focus on national economic gains sometimes resulted in an unduly narrow benefit-cost comparison of the monetized and quantified effects. The P&G provided that contributions to NED would be expressed in monetary units. Although the benefits in the other three accounts were included in the overall analysis and available to decision-makers under the P&G, they often, with some exceptions (*e.g.*, aquatic ecosystem restoration studies and dam safety studies), were not the key drivers in the final decision-making as compared to the monetized and quantified national economic efficiency effects.

The PR&G emphasizes that relevant environmental, social and economic effects should all be considered and that both quantified and unquantified information will form the basis for evaluating and comparing potential Federal investments in water resources to the Federal objective. The ASPs make clear that the Corps will use monetized and quantified data to the extent practicable, but that unquantified information will be fully considered as well. This more integrated approach would allow decision-makers to view a more complete range of effects of alternative actions and lead to more socially beneficial investments. See preamble sections 234.9 and 10 for further discussion on the use of unquantified data and decision-making.

A separate distributional analysis can be utilized to examine regional economic benefits. The P&G included regional economic development as one of four "accounts" for facilitating evaluation and display of effects of alternative plans. As stated in the Background section, the RED account registered changes in the distribution of economic activity that result from each alternative plan. These economic effects amount to a transfer of resources from one part of the Nation to another (either from one region of the country to another, or within a region). They accrue in a local area or region but are offset by equivalent losses elsewhere in the country.

The PR&G implementation would include other potentially important distributional effects, including environmental and social effects considerations at the regional level. The non-federal interest and local organizations and communities can provide valuable information to inform these assessments for a proposed water resources investment, providing that local knowledge and valuation as the Corps seeks to identify more of a community-driven solution under the



implementation of the ASPs than what is implemented under the current P&G policy.

Having a more holistic view and recognition that water resources development projects can provide a multitude of benefits allows for the whole story to be told regarding alternatives being considered for Federal water resources investments. For example, this more holistic view will enable more informed decision-making for Federal investments to truly identify in the final array of alternatives what will best enable resilience for the Tribal Nation, when applicable, or the community, the region, and the Nation. Public benefits also include consideration of public assets that contribute to community resilience, such as by reducing the flood risk to property, housing, and other existing infrastructure, etc.

Some benefits may be difficult to bucket into a category of economic, environmental, or social. Analysts are encouraged to be as specific as possible, and when categories cannot easily be assigned, and to describe the relevance when evaluating alternatives. Double counting should be avoided. If benefits appear to accrue to more than one category, development of logic models, exploration with experts or other methods can help specify benefits further and parse effects into different categories, representing the full set of effects and avoiding double counting. In addition, when economic, environmental, and social goals compete, the Corps would describe such instances and include the considerations in the tradeoff analysis (see 234.10(b)). The important component is to consider complementary and consistent formulation of the various benefits. Army solicits comment on whether net public benefits should be described without the additional step to categorize them into economic, environmental, and social in order to display all benefits in their entirety without the risk of double-counting or having to identify a specific benefit category when there may be overlap.

Army is also soliciting comments on whether it should be acknowledged that Tribal benefits are part of the Tribal trust responsibility in implementing the PR&G and whether Tribal benefits should be called out separately from “public benefits”. In addition, in many circumstances, Indigenous Knowledge can be used to inform the benefits that may accrue as a result of any given alternative providing more transparency on the entirety of benefits provided to better inform decision making.

Some benefits are also difficult to monetize or quantify, for example, non-use values of wildlife loss (e.g., existence or bequest values), or some culturally valued experiences (e.g., spiritual connection to nature and option to lead a subsistence way of life). In this particular area, we solicit comments as to approaches and tools that may be employed to best enable the Corps to have consistent and transparent implementation, including through the use of any final guidance provided by the Office of Management and Budget on ecosystem services in response to its August 2, 2023 proposal (88 FR 50912).

The quantification of benefits relates to several evolving fields and new methods may develop over time. The PR&G and the Corps’ proposed ASPs emphasize that benefits should be monetized when possible, quantified when they cannot be monetized, and described when neither monetization nor quantification is possible with available methodologies and data. Where qualitative descriptions and analysis are used, they should be of sufficient detail and quality to enable the decision-maker to make informed decisions. In addition, the Army solicits comment on whether life safety benefits should be specifically identified, and if so, under which of the three ASPs benefits category, social, environmental, or economic category (see Section 234.9(c) for additional information on these categories).

Under the ASPs, consideration of the range of benefits (economic, environmental, and social benefits) is the integral component of the planning process. The process should look beyond simply starting with the National Economic Development/ National Ecosystem Restoration plan and then only filling in the other requirements of the ASPs when those benefits are needed for project justification.

Development of a comprehensive plan to address the water resources challenge must begin in the earliest phases of the planning process and would continue throughout the process, as detailed through the Federal objective, Guiding Principles, and planning process framework provided in this proposed rule. There may also be instances where the Corps’ existing tools and resources in calculating the four P&G accounts, national economic development, regional economic development, environmental quality, and other social effects, may still be relevant in implementing the PR&G, where appropriate.

Section 234.4(d) Applicability. This proposed rule paragraph describes the projects and programs that must use the PR&G framework and outlines those projects and programs that are excluded from performing a PR&G analysis. Essentially the PR&G will apply to all Corps projects and programs that are not identified as excluded in 234.4(d)(2). Per the PR&G, it was never intended that PR&G apply to all projects and programs for water resources agencies and the list of exclusions is consistent with the PR&G exclusions and applicability discussion. The Army invites comment on additional projects and programs that should be covered under the PR&G or, conversely, additional projects and programs to which the PR&G should not apply. The proposed excluded projects and programs either fall below the thresholds identified in Table 1 of the proposed rule, or are considered to be small and routine such that it would not be appropriate to have the PR&G apply. This does not mean that those projects or programs do not have to follow the relevant laws, regulations, and general planning processes simply because they are excluded from PR&G. Even though such projects or programs would be excluded from the full application of the ASPs and the PR&G, those projects and programs should still strive to meet the intent of the ASPs by applying similar concepts where relevant. With respect to a project or program that meets a NEPA categorical exclusion, such exclusion does not automatically trigger an exclusion for application of the PR&G. However, many of these projects and programs may meet the terms of an exclusion under both NEPA and the proposed ASPs.

Also, the proposed ASPs would also apply to non-Federal interests who undertake feasibility studies, such as under Section 203 of WRDA 1986, as amended. The WRDA provisions, as amended, provide that the study, and the process under which the study was developed and conducted by a non-Federal interest would be reviewed by the Secretary to determine whether it complies with Federal laws and regulations applicable to feasibility studies of water resources development projects. These would include this proposed rule.

In proposed paragraph 234.4(d)(2), some actions that are excluded under the PR&G for the Corps’ proposed ASPs include the Corps’ Regulatory Program as well as Section 408 actions as there is no proposed Federal water resources investment being considered. As provided in section 14 of the River and Harbors Appropriations Act of 1899, as

amended (33 U.S.C. 408), the Section 408 process serves to ensure that an action proposed by another entity (a party other than the Corps) for the temporary or permanent alteration or use of a civil works project will not be injurious to the public interest and will not impair the usefulness of that Corps project. Regulatory actions are listed in the Interagency Guidelines as excluded activities. However, this exclusion does not apply to regulatory compliance actions related to activities that are subject to the PR&G, such as compliance with the Endangered Species Act. Real estate actions of the Corps, such as easement decisions on existing Corps lands and land disposal actions, are also proposed to be excluded as these also do not result in a proposed Federal water resources investment. Technical services programs, such as Planning Assistance to States and Flood Plain Management Services, are also proposed to be excluded as these programs support state and local water resources planning efforts, rather than a proposed Federal water resources investment. Similarly, these actions were excluded under P&G as they do not develop Federal water resources planning studies.

The Corps' PL 84–99 Program is also proposed to be excluded from the PR&G as the program provides for emergency activities prior to, during, and after a flood event. The framework for the PR&G generally is not well suited for this program, under which the Corps prepares for, responds to, and assists certain eligible communities in their recovery after a flood or other natural disaster. The Army solicits comment on whether modifications allowed under the PL 84–99 program should not be excluded from the PR&G. Emergency actions in general under the Corps' disaster response emergency operations are to be excluded from the PR&G as a different set of procedures and considerations must be employed in responses to emergencies, rather than a traditional planning-type process. The Interagency Guidelines provides that short-term actions to remove immediate danger to public health and safety or prevent imminent harm to property or the environment should be excluded. This would not apply to longer-term actions to rehabilitate damaged resources or prepare for future emergencies.

Also proposed to be excluded is the Corps' implementation of its Water Infrastructure Finance and Innovation Act (WIFIA) program. The criteria for that program are included in the final rule issued for this program (88 FR 32661). In general, the Corps' WIFIA

program is authorized to provide credit assistance in the form of direct loans and loan guarantees for investments by non-Federal interests to address dam safety concerns at their non-Federal dams. Corps water resources development projects are not eligible for funding under WIFIA and the program is limited to financial assistance for non-federal dam safety projects, so the PR&G would not apply. Similarly, environmental infrastructure projects are proposed to be excluded. The Corps may provide funding to certain of these non-federal projects such as wastewater treatment systems where authorized by law. These also are generally smaller-scale projects.

In addition, land management plans are proposed to be excluded from implementing the PR&G for the Corps. Land management plans are broadly used to guide the management and development of recreational, natural, and cultural resources on Corps project lands throughout the life of the Corps project. The Interagency Guidelines also provides that there may be existing agency procedures that meet the purpose and intent of the PR&G for Federal investments, which includes land management planning processes. The Corps' development of land management plans is subject to such equivalent procedures.

Also, operations and maintenance (O&M) activities carried out in a manner consistent with an existing O&M manual or O&M plan for an authorized project would be excluded under the proposed rule from the PR&G. The original O&M envisioned by the original project authorization would be considered and evaluated under the ASPs in the investment decision making process. In the absence of changed conditions, activities that are generally expected as part of normal, planned operations may be excluded from PR&G analysis using an appropriate threshold if they have been analyzed during the original project or program analysis and are consistent with the existing approved O&M manual or O&M plan. Compliance with other Federal statutes and laws would still be required. However, the PR&G would apply when significant changes to O&M plans are proposed or changes to meet new goals are proposed that raise additional considerations for water resources investments.

Two other types of activities proposed to be excluded from the PR&G for the Corps are monitoring (*e.g.*, water quality monitoring or fish monitoring) and research. Such activities may be used to inform Federal investments in a proposed or existing water resources

development project, but they are not water resources development projects or investment decisions themselves. The Interagency Guidelines provide that the PR&G is not intended to include data collection, except insofar as its purpose is to inform an investment decision involving permanent site-specific actions.

The Corps' Interagency and International Support and Support for Others program actions are also proposed to be excluded. In addition, these actions are provided on a reimbursable basis and as such are assistance to other programs and not part of Federal investments as other activities covered under the proposed ASPs. The Corps performs these activities on a reimbursable basis. All of the work that the Corps performs under this program is requested by other agencies, which pay the Corps the full cost of providing these services. For example, on a reimbursable basis, the Corps provides technical assistance under this program to non-DoD Federal agencies, state and local governments, Tribal Nations, private U.S. firms, international organizations, and foreign governments. The Corps also provides engineering and construction services, environmental restoration and management services, research and development assistance, management of water and land related natural resources, relief and recovery work, and other management and technical services. While some of this work may be related to a water resources investment by another Federal agency, it is not related to an investment decision by the Corps and, as such, is not covered under the proposed ASPs. Although excluded from the ASPs, the Corps' international programs are subject to other international environmental requirements and DoD environmental commitments.

In addition, those projects, programs, or plans that meet the threshold criteria in the proposed Table 1 for exclusions are generally for routine investments. In most cases, these investments would not have significant adverse effects on water resources. Also included in the proposed list of exclusions are those programs, plans, or projects which fall under an exception at 234.3.

The Army solicits comment on whether additional exclusions should be added, such as dredged material management plans, the Tribal Partnership Program, the Continuing Authorities Program, and Major Rehabilitation Evaluation Reports due to scope, scale, level of investment, project partner, technical nature of product, etc. Some of these also have programmatic

authorizations from Congress (*i.e.*, Tribal Partnership Program and Continuing Authorities Program) and as such will not follow the full planning process provided in the proposed ASPs as they do not result in a recommendation to the Congress. In addition, the Army solicits comment on whether any of the actions identified as proposed exclusions in the rule should not be excluded, in which case the ASPs would apply to them. Also, the Army solicits comment on whether watershed studies should be specifically included to ensure that they align with the goals of the PR&G and result in better outcomes for integrated water resources management. These studies do not fit into the categories described above and additional clarity may be needed as to whether they are covered under the PR&G. Section 729 of WRDA 1986, as amended, and other specifically authorized watershed authorities allow the Corps to study the water resources needs of river basins and regions of the United States, in consultation with federal, state, tribal, interstate and local governmental entities. These studies go beyond project planning for specific Corps projects towards more comprehensive and strategic evaluations and analyses that include diverse political, geographic, physical, institutional, technical, and stakeholder considerations. Watershed planning addresses identified water resources problems and opportunities from any source, regardless of agency responsibilities, and provides a shared vision of a desired end state that may include recommendations for potential involvement by the Corps, other federal agencies, or non-federal interests. Generally, Corps watershed studies do not result in a water resources investment recommendation. Instead, they highlight more strategic actions, some of which may not be a Corps of Engineers responsibility. The three main Civil Works missions of the Corps are: commercial navigation, flood and storm damage reduction, and aquatic ecosystem restoration. The Army solicits comment on whether Corps watershed studies should be excluded from the PR&G.

**234.5 Level of analysis.** This section of the proposed rule describes and defines the next step in the PR&G process under the Corps' proposed ASPs. Once a decision is made that the PR&G applies under 234.4, the next step is to determine what level of analysis should be applied.

Section 234.5(a) Standard and scaled level of analysis. There are two levels of analysis under the PR&G that are proposed to be applied based on the

scope and magnitude of the proposed projects, programs, or plans; and the significance of the Federal investment in terms of dollar value and potential environmental impacts. The different levels of analysis allow for investment decisions to be made effectively and efficiently. Just as not all investment decisions must trigger the application of the PR&G, not all investment decisions that do trigger the PR&G must require in-depth, extensive analysis. Many small, routine activities would be excluded from the PR&G analysis under the proposed rule (refer to 234.4(d)(2)) such as small-scale Tribal Partnership Program projects or routine investments in invasive species removal, while activities that are somewhat broader in scope but pose minimal risks are proposed to be subject to a scaled PR&G analysis, and those activities with larger potential impacts would be subject to a standard analysis. A scaled PR&G analysis would generally include fewer alternatives with a more streamlined formulation process and justification procedures than a standard analysis, while still adhering to the PR&G and resulting in a systematic decision. A scaled analysis reflects the scope and complexity of the problem being assessed. The proposed ASPs include Table 1, which provides the monetary threshold criteria for a general guideline to be used for identifying the types of projects, programs, or plans and their corresponding levels of analysis. The Army solicits comment on whether the proposed rule language regarding benefits/cost analysis in this section is adequate or whether additional content or examples is needed in the rule text.

Various types of acceptable economic analyses and benefit categories may be applied,<sup>11</sup> such as transportation rate savings, damages reduced, next least costly alternatives, commercial fishing, recreation benefits, etc. In addition, there are measurement standards by which such analysis may adhere, such as net changes to the ecosystem goods and services provisioned by the environment. The Corps would use best professional judgement in determining what is relevant to consider. Early engagement can also assist the Corps in providing considerations to inform selection of methodologies and benefit categories.

For scaled analysis, the rule proposes that methods reliant on secondary data sources may more frequently be used (*e.g.*, benefit function transfer methods, expert opinion, proxy valuations, windshield analysis). Those same tools

<sup>11</sup> See Circulars A-4 and A-94 for more information.

may also be used in the application of the standard level of analysis when appropriate. The Army would also use various modeling techniques for the cost-benefit analysis when appropriate. The Army solicits comments on the types of analyses that may best be used to evaluate the full range of public benefits under both standard and scaled level of analyses.

Section 234.5(b) Determining the appropriate level of analysis. This paragraph of the proposed rule describes the process for determining the appropriate level of analysis for the PR&G. In addition to the considerations and descriptions provided in 234.5(a) for the scaled and standard analysis, as well as the criteria provided in the proposed Table 1 to be used as a general guide, the proposed ASPs note that professional judgment and available resources are also important factors in determining the appropriate levels of analysis. In some scenarios where a potential investment may meet the threshold criteria in the proposed Table 1 for a scaled analysis, based on considerations such as environmental or Tribal trust responsibilities or uncertainty in the information to be used in a decision, it may be best to conduct a standard analysis. And a similar scenario could occur in the reverse circumstances, such as where a potential investment meets the threshold criteria for a standard analysis but due to the routine nature or lack of complexity a scaled analysis may be more appropriate. This is not envisioned to be a common scenario. Even if a potential investment may otherwise meet the criteria to be excluded from the PR&G under the proposed Table 1, there may be circumstances that would nonetheless trigger analysis under the PR&G. Some areas to consider when making deviations from the criteria thresholds listed in the proposed Table 1 include: magnitude and significance of specific problems and opportunities the investment seeks to address; significance of natural resources within the study area; significance of the environmental justice concerns; magnitude and significance of expected impacts of the investment; expected investment scale and/or costs; complexity or significance in science, engineering, or resource management; projected service or operational life of the project or facility; stakeholder concerns; authority under which the investment decision/recommendation is made; uncertainty in decision variables and resulting risk exposure; degree of performance or irreversibility of

potential investment decision; nature and extent of Tribal trust responsibilities in the study area; or, cumulative effects of, or controversy associated with, any of the above. Additional areas to consider include, when impacts may vary across alternatives such that analysis can help identify the best alternative, and when analysis will help the public and decisionmakers understand the effects of the project. Army solicits comments on additional considerations to be applied when making a determination as to the appropriate level of analysis under the PR&G, and whether additional clarity is needed on how such determinations may be made.

Section 234.5(c) Scope and magnitude of analysis required. The threshold criteria provided in the proposed Table 1 are guidelines to establish an appropriate scope and magnitude for the analysis based on the Federal cost (excluding the non-Federal share) of a proposed activity, measured in terms of the present value of the Federal investment. The present value is the current dollar value, after discounting. The proposed Table 1 was taken straight from the Interagency Guidelines. The monetary thresholds were designed to be relevant to all the agencies implementing the PR&G to provide a common framework and baseline. The Army solicits comment on whether the values provided in Table 1 are the appropriate thresholds to apply for the Corps' ASPs, and also whether the amounts should be adjusted for inflation from the original amounts provided, which were developed in 2014. If inflation adjustments are appropriate, the Corps further solicits what data should be used to make those adjustments going forward, *e.g.*, GDP deflator, CPI, or something else. The Army also solicits comments on whether the Corps should account for the non-Federal share of the costs in setting these thresholds, in order to reflect the cost to society (Federal plus non-Federal) of the proposed investment. In that case, the thresholds would be somewhat higher.

The Interagency Guidelines state that the PR&G specifically applies to operational modifications, modernization of existing facilities, dam safety modifications, culvert replacements, water conveyance, and fish ladder modifications. The analysis of significant O&M investments of this kind would be subject to the thresholds provided in proposed Table 1.

Operation and maintenance activities resulting in consequential effects on water quantity or quality that have not been previously analyzed should be

appropriately analyzed using either the project- or programmatic-level processes laid out in the proposed rule. More significant operational changes, such as adding a new project purpose or significantly modifying project outputs, warrant analysis under the PR&G. However, routine O&M activities are proposed to be excluded (see 234.4(d)).

To apply proposed Table 1 to an investment under consideration, the Corps would first determine whether the action is a project, program, or plan, then identify the appropriate relevant level of Federal investment under consideration. The Federal investment includes all capital and labor costs associated with the potential investment. Once those two steps have been made, the Corps can determine the recommended appropriate level of analysis for the Federal investment. However, in applying the proposed threshold criteria, the considerations and judgement described in 234.5(b) should be applied to determine whether a deviation from the criteria is appropriate. A scoping effort can be helpful in providing information needed to determine whether a deviation may be warranted.

This paragraph also describes how to apply the threshold criteria for project, programmatic, and individual plan levels. A project-level analysis should be applied to water resources investments when the Corps has discretion in investment decisions for the planning process on a particular project. Project-level analyses typically require more detail and focus on a narrower scope and/or scale. This would include all of the relevant existing and proposed Federal, state, and local investments in infrastructure or ecosystem restoration, including any planned modifications or replacements to existing facilities, and their operation and maintenance. Programmatic-level analyses require the detail necessary to ensure decision-makers have sufficient information to make an informed decision, but it may be conducted differently than project-level analyses. For example, the scale and/or scope will likely be greater with a similarly broader level of detail. Programmatic-level analysis can apply when the Corps proposes a set of similar actions analyzed under one decision document. The Corps would apply the broadest and most rigorous analysis (*e.g.*, standard analysis for a programmatic-level analysis) wherever appropriate. The Corps would not split an action that is more appropriate under programmatic review into smaller project-level actions simply to avoid any perceived analytical burdens. Such actions may include

those that have cumulative effects on water resources. If an individual project within this broader program is noteworthy or raises particular concerns, the Corps may decide to evaluate that specific project individually under the PR&G. Care would be taken to ensure that evaluating individual projects does not lead to underestimation or exclusion of cumulative effects. The Army solicits comment on whether more clarity is needed for which types of projects would fall under the project vs. program vs. plan criteria. The Interagency Guidelines state that if the Corps develops a revised proposed Table 1 specific to the Corps, the following considerations should be taken into account: (1) thresholds relevant to the specific activities of the Corps; and (2) criteria relevant to the Corps for determining the level of analysis. The Army solicits comment on whether either of those considerations warrant a revision to proposed Table 1 for the Corps' ASPs.

Section 234.6 The Planning Process.

Section 234.6(a) Introduction. This proposed paragraph describes how the planning process will incorporate the Guiding Principles from the PR&G in the analysis and development of Corps Federal investments in solving water resources problems. The section describes the planning process as orderly, systematic, and iterative, and establishes the desired outcome as investment advice in the form of a plan or plans that seek to maximize net public benefits. Investment advice supports the decision-making process. It provides analysis and a potential solution for the subject water resources problem and the Chief of Engineers uses such investment advice to make a recommendation to the Congress for consideration in the authorization process. Ultimately, the Congress decides whether or not to authorize a particular recommendation and how to consider such investment advice. The plan recommendation includes investment advice and shapes the federal role in a given planning situation. As in most Corps documents, Records Management and Freedom of Information Act (FOIA) requirements should be considered throughout the development of PR&G analysis documents, with the inclusion of an index to facilitate the collection of records for any future FOIA requests.

Section 234.6(b) NEPA. This proposed paragraph encourages the Corps to integrate the NEPA and the PR&G processes as much as possible to produce a single analytic document to meet both requirements. This concept is

discussed in the Interagency Guidelines and is currently common practice for the Corps' planning processes. Through the integration, to the extent possible, a reduction in duplication is anticipated especially when the same information is being relied on when performing the PR&G and NEPA analyses. A single analytic document also could help to achieve reduced workload as well as consistency across alternatives analyzed and other components that are covered in both the PR&G and NEPA analyses. However, there may be instances when analyses under the PR&G results in a modification to the NEPA analysis, such as when an alternative under consideration is eliminated from further review because it conflicts with the Federal objective or a Guiding Principle. In this case, the Corps should include in the NEPA documentation why such alternative is not being carried forward in the review process. The formulation criteria are not appropriate screening criteria under NEPA. The Corps would include in the analysis an alternative that meets the purpose and need under NEPA and is feasible and reasonable. In all cases, the Corps would comply with NEPA while implementing the PR&G. Compliance under NEPA and this proposed rule, if finalized, does not eliminate the Corps' obligations under other statutory requirements (e.g., Endangered Species Act compliance) or fulfillment of Tribal trust responsibilities. For example, Corps proposed projects involving the discharge of dredged or fill material into waters of the United States would be developed in accordance with the guidelines promulgated by the Administrator of the Environmental Protection Agency (EPA) in conjunction with the Secretary of the Army under the authority of Section 404(b)(1) of the Clean Water Act (CWA) of 1972, unless these activities are exempted by Section 404(f) (40 CFR 230.1(a)). The Corps should seek to maximize integration and reduce redundancy or duplication with other federal law requirements and compliance with statutory provisions.

Section 234.6(c) Guiding Principles. This section describes the Guiding Principles for the planning process that the P&R identifies, which are: environmental justice, floodplains, healthy and resilient ecosystems, public safety, sustainable economic development, and a watershed approach. The Guiding Principles are intended to be used as overarching concepts to promote through water resources investments. They are described below and in the proposed rule in alphabetical order.

Section 234.6(c)(1) Environmental justice. A focus of the PR&G and these ASPs is environmental justice and meeting the needs of Tribal Nations and communities with environmental justice concerns to achieve environmental justice for all populations. The ASPs provide a description of environmental justice consistent with other agency definitions and with existing Corps policy<sup>12</sup> on environmental justice. The proposed paragraph directs that environmental justice considerations shall be incorporated into all phases of the planning process and decision-making for Corps Civil Works programs. The proposed ASPs require that the planning process go beyond "do no harm" to also ensure meaningful engagement with Tribal Nations and other communities with environmental justice concerns as well as to increase community access to benefits provided by Civil Works programs. Working within congressional study authorizations provided to the Corps, the ASPs' guiding principle of environmental justice drives inclusion of restorative justice for communities with environmental justice concerns. Environmental justice efforts seek to find access for all to long-term, sustainable solutions. The ASPs require that burdens on Tribal Nations and communities with environmental justice concerns<sup>13</sup> that are not avoidable are to be mitigated.

By removing the potential barriers to community participation in the planning process and the potential barriers to receiving the benefits of Federal investments, the Corps, in its implementation of the PR&G, will strive to provide equal access to the Corps'

<sup>12</sup> [https://www.army.mil/article/254935/assistant\\_secretary\\_of\\_the\\_army\\_for\\_civil\\_works\\_issues\\_environmental\\_justice\\_guidance\\_to\\_the\\_army\\_corps\\_of\\_engineers](https://www.army.mil/article/254935/assistant_secretary_of_the_army_for_civil_works_issues_environmental_justice_guidance_to_the_army_corps_of_engineers), last accessed on January 31, 2024.

<sup>13</sup> To identify communities with environmental justice concerns, the Corps would use a suite of tools and sources of information, such as the Council on Environmental Quality's Climate and Economic Justice Screening Tool (CEJST), the EPA's EJScreen Tool, Indigenous Knowledge, state or local data or tools, and community- or resident-driven information. The CEJST (<https://screeningtool.geoplatform.gov/>), last accessed on September 21, 2023, identifies disadvantaged communities that have been marginalized by underinvestment and overburdened by pollution and was developed for agencies to use for the Justice40 Initiative and other resource allocation purposes. There may be some communities that are not considered disadvantaged by the CEJST because they do not meet the low-income threshold, but that face many environmental burdens and could be considered to have environmental justice concerns. The Corps would also evaluate any other relevant tools, including locally relevant data and any information received in public comment from any local communities with environmental justice concerns on unavoidable impacts and potential mitigation.

services and programs and to ensure fairness in decision-making. As each community has different needs, allocation of resources for engagement may be different for different communities in order to reach an equitable outcome of participation opportunities. The Army acknowledges that every Tribal Nation and community with environmental justice concerns is unique, and may have different or preferred ways of engaging, different areas of concern, and different considerations for ways to address those concerns. For engagement, this may entail the use of different languages to ensure language access is achieved to support meaningful engagement, or various methods of providing information via written, oral, and virtual formats to ensure accessibility for individuals with disabilities, meetings held in the communities, etc.

The Corps would ensure social (including health) environmental justice factors are evaluated during the planning process, to include consideration of such factors throughout the lifecycle of a water resources investment, and that consideration should be given to impacts that could affect Tribal Nations and communities with environmental justice concerns differently than other communities. For example, the historic disproportionate burden that a community may have faced in the past related to a lack of investment to reduce flood risks, or to exposure to toxins, should be considered in the impacts assessment in the planning process, similar to a cumulative impacts approach. An incremental change in an environmental impact may result in insignificant impacts to some communities, but significant impacts to others (e.g., a Tribal Nation or community with environmental justice concerns). In addition, the same could be said in the converse with benefits assessment. A small increase in recreational opportunities may have a much larger benefit to a community that has environmental justice concerns and also has limited access to recreational opportunities than it would benefit another community, which has environmental justice concerns but already has access to recreational opportunities. Potential issues that may be evaluated during the planning process for positive or negative impacts on a community with environmental justice concerns also may include, but are not limited to: exposure to climate-related risks and opportunities for climate resilience, factors that subject a community to poorer health or

environmental conditions, subsistence hunting and gathering, Tribal resources of cultural and religious significance, cultural resources, access to greenspace or other natural areas, community values, factors that contribute to poorer physical or mental health conditions, income level, education level, and crime. Indigenous Knowledge is also a critical component and source for the evaluation process related to environmental justice concerns. Such an evaluation process would help the Corps assess risk, including perceived risk, and economic measures by using scientific factors and Indigenous Knowledge in risk assessments to characterize the nature and magnitude of human health and ecological risk from contaminants and other stressors that may be present.

In analyzing each alternative's potential environmental justice impacts, agencies can also use these tools to ensure a holistic view of the potential broader social effects. Environmental justice should be accounted for in all areas being assessed under the PR&G, the economic, environmental, and social, rather than solely as a social consideration. Every application of the PR&G would contain case-specific environmental justice strategies and considerations. The goal under this Guiding Principle of the PR&G, therefore, is to ensure that the Corps works to reduce barriers to equal opportunity in engagement and participation in the planning process for Corps water resources development projects to produce more sustainable and resilient solutions that will help these communities, particularly those that are among the most vulnerable, to reach their fullest potential. A key component of this is to listen to the communities and ensure that they are engaged throughout the planning process. The communities themselves will likely help identify concerns and solutions to their water resources problems and opportunities as well as participate in the identification of any potential effects, mitigation measures, and benefits, including through sharing Indigenous Knowledge, as they deem appropriate.

In implementing the proposed ASPs, the Corps would ensure that it considers the opportunities to overcome past inequities, and identifies any disproportionate and adverse public safety, human health, or environmental burdens of proposed water resources investments on communities with environmental justice concerns, including cumulative impacts for already overburdened communities. This is consistent with Executive Order

14096, Revitalizing Our Nation's Commitment to Environmental Justice for All (88 FR 25251). The Corps would use all available means to gather such information, including Indigenous Knowledge and information received directly from communities. The Corps would seek to identify solutions that would eliminate or avoid those disproportionate adverse effects. Each alternative analyzed would be transparent in the discussion of the effects as well as benefits to Tribal Nations and other communities with environmental justice concerns, where applicable.

The Corps would use available tools and resources to identify and describe communities with environmental justice concerns. This may include a suite of tools and sources of information, such as the Council on Environmental Quality's Climate and Economic Justice Screening Tool,<sup>14</sup> the EPA's EJScreen Tool,<sup>15</sup> Indigenous Knowledge,<sup>16</sup> state or local data or tools, and community- or resident-driven information. The Army solicits comment in particular on how the navigation program can use tools and resources to directly assess and, as appropriate, demonstrate project benefits for disadvantaged communities, and other nearby communities.

Section 234.6(c)(2) Floodplains. The proposed ASPs highlight the importance of floodplains and adopt the language of WRDA 2007 to avoid the unwise use of floodplains, and to minimize impacts to floodplains if those areas cannot be avoided. Floodplains are critical aspects of watersheds and connect land and water ecosystems while supporting high levels of biodiversity and productivity. Floodplains with unaltered natural and beneficial functions can increase the resilience of communities. There is no specific floodplain return interval identified for use in the PR&G and as such the floodplain should be considered on a case-by-case basis, as appropriate to evaluate the particular water resources problem or opportunity in that community and to identify the full range of reasonable alternatives.

As part of the Corps' implementation of this Guiding Principle, the Corps will continue to implement the Federal Flood Risk Management Standard

<sup>14</sup> <https://screeningtool.geoplatform.gov/>, last accessed on January 31, 2024. Federal agencies use the CEJST to help identify disadvantaged communities that will benefit from programs included in the Justice40 Initiative and other statutory programs that direct resources to disadvantaged communities.

<sup>15</sup> <https://www.epa.gov/ejscreen>, last accessed on January 31, 2024.

<sup>16</sup> See OSTP-CEQ-IG-Guidance.pdf ([whitehouse.gov](https://www.whitehouse.gov)) for additional information, last accessed on January 31, 2024.

(FFRMS), where appropriate, which is a flexible framework to increase reliance against flooding and help preserve the natural values of floodplains as provided in Executive Order (E.O.) 13690 (80 FR 6425).<sup>17</sup> Executive Order 14030 (86 FR 27967), Climate-Related Financial Risk, reinstated the FFRMS as well as clarified that the guidelines for floodplain management under E.O. 13690 (80 FR 6425), Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input, remain in effect. The FFRMS provides four potential methods for delineating flood hazard areas, with the preferred method being the Climate-Informed Science Approach (CISA).<sup>18</sup> The proposed ASPs recognize and incorporate the requirements of E.O. 13690 and FFRMS. The Corps water resources investments may include facilities that must be located in the floodplain to provide a desired function (e.g., levees). The Corps would implement CISA methods for all Civil Works studies via online tools and technical guidance. As provided in the IG, the Corps would continue to incorporate considerations such as sea-level rise and rely on the best available actionable science on both current and future risk when planning proposed water resources investments.

The CISA, as implemented by the Corps, considers two broad categories of climate change impacts on flood hazards: inland and coastal. Some projects located in the estuarine transition zone between inland and coastal water bodies may be required to consider both kinds of impacts. In the coastal zone, the Corps primarily considers the effects of relative sea level change, which can have a significant impact on the flood hazard. Internal Corps guidance (Engineer Regulation 1100-2-8162)<sup>19</sup> requires Corps project delivery teams to consider the effects of sea level change when formulating,

<sup>17</sup> E.O. 13690 was revoked by E.O. 13807, Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure Projects (82 FR 40463), but was later reinstated by E.O. 14030, Climate-Related Financial Risk (86 FR 27967).

<sup>18</sup> The *Guidelines for Implementing Executive Order 11988, Floodplain Management, and Executive Order 13690, Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input* (2015) identify CISA as the preferred FFRMS approach when climate science and future conditions data are available and actionable. Where data are not available or actionable for CISA, the FVA and 0.2PFA are acceptable approaches.

<sup>19</sup> [https://www.publications.usace.army.mil/Portals/76/Users/182/86/2486/ER\\_1100-2-8162.pdf](https://www.publications.usace.army.mil/Portals/76/Users/182/86/2486/ER_1100-2-8162.pdf) Incorporating Sea Level Change in Civil Works Programs, last accessed January 31, 2024.

selecting, and evaluating project alternatives. In addition, another internal guidance document (Engineer Pamphlet 1100–2–1)<sup>20</sup> provides technical information for how this consideration should be achieved, with techniques specified for each Corps Civil Works program area.

Consideration of relative sea level change is made more accurate, timely, efficient, and reproducible through the use of web-based tools. The Sea Level Curve Calculator allows the user to plot and tabulate the three sea level scenarios for any NOAA National Water Level Observation Network (NWLON<sup>21</sup>) tide gage with sufficient period of record, along with coastal extreme water levels, other federal and local scenarios, tidal and geodetic datums, and water elevations critical to project performance. The Sea Level Tracker also allows plotting and tabulation of these three scenarios (see footnote 16, and consistent with the three scenarios proposed by the National Research Council as updated by the National Oceanic and Atmospheric Administration,<sup>22</sup>) alongside linear trendlines and computed water levels of various frequencies and averaging periods, based on observations. The Corps has also produced a static atlas of observed sea level change for offline viewing, and a specific calculator for the high-subsidence environment of coastal Louisiana. More information on these tools may be found at the Corps' public tools web page.<sup>23</sup> The Corps would use the social cost of greenhouse gases where appropriate throughout implementation of the ASPs (88 FR 1196).

The effects of climate change on pluvial, riverine, and lake flood risk is more complex and uncertain than the effects of sea level change. For inland hydrologic analyses, Corps teams implement the CISA using internal agency guidelines.<sup>24</sup> Teams follow four basic steps to characterize potential project vulnerabilities to the effects of

climate change on inland hydroclimatology: a review of available scientific literature; statistical detection of trends and changes in observed data; examination of projected future hydroclimatology based on climate modeling; and assessment of business-line specific indicators of project performance risks, which are related to the primary purpose or purposes of the proposed project.<sup>25</sup>

To aid teams in performing these analyses, the Corps has produced a suite of resources, several of which are publicly available. A series of 21 summaries of scientific literature, organized by two-digit hydrologic unit code (HUC), simplifies the review of scientific articles relevant to project locations. The Time Series Toolbox<sup>26</sup> and Nonstationarity Detector<sup>27</sup> are two tools to perform statistical tests for changes in observed data and identify the timing and nature of those changes. The Timeseries Toolbox also performs time series modeling, breakpoint analysis, seasonal decomposition, and statistical summaries of user-provided data.

The Climate Hydrology Assessment Tool (CHAT<sup>28</sup>) presents projected temperature, precipitation, and streamflow for 64 combinations of climate model and greenhouse gas emissions scenario, at the scale of the HUC–8 watershed. These projections are combined with business-line specific indicators of project vulnerability in the Civil Works Vulnerability Assessment Tool, which is not publicly accessible outside the Corps. This tool reveals the dominant sources of climate vulnerability and regions of particularly high or low vulnerability to various climate change effects, to inform evaluations of potential project impacts and corresponding adaptation options. More information on Corps tools for analysis of climate change effects on inland hydroclimatology is available through the Corps web page.<sup>29</sup>

In addition to guidance on Climate Preparedness and Resilience, the Corps has also produced guidance for implementation of resilience principles across the agency. The internal agency

guidance on resilience (Engineer Pamphlet 1100–1–2<sup>30</sup> and 1100–1–5,<sup>31</sup> and Engineering and Construction Bulletin 2020–6)<sup>32</sup> detail how Corps teams incorporate resilience principles into planning, design, and construction. While not related to hazard area delineation under the FFRMS, these documents can help inform lasting responses to those hazards. The Corps reviews and updates the tools and guidance on an ongoing basis, when necessary.

The Corps implements four principles related to resilience: prepare, absorb, recover, and adapt. These principles provide a lifecycle perspective for resilience-related actions in recognition of the fact that adverse events happen and conditions change over time. This includes the ability to anticipate, prepare for, and adapt to changing conditions and withstand, respond to, and recover rapidly from disruptions. The Corps contributes at three levels of applied resilience: (1) project, (2) system, and (3) community. These three levels of resilience are interdependent, and actions taken at any level will ultimately affect the others.

The proposed paragraph in the proposed rule on the Guiding Principle for floodplains notes that Corps action may be located in floodplains where that is the best way to address the water resources problem or opportunity, such as a levee system that helps to reduce a flood risk. Such placement does not automatically trigger the labeling of a particular flood risk management measure as an “unwise use of floodplains.” The proposed ASPs also require a fully nature-based alternative to be included in the final array of alternatives, when appropriate, which also ensures full visibility of alternative approaches regarding the use of floodplains to meet the Guiding Principle as well as the principles of EOs 13690 (80 FR 6425) and 11988 (42 FR 26951), as amended.<sup>33</sup> Where a fully

<sup>20</sup> <https://www.publications.usace.army.mil/Portals/76/Users/182/86/2486/EP-1100-2-1.pdf>, Procedures to Evaluate Sea Level Change: Impacts, Responses, and Adaptation, last accessed January 31, 2024.

<sup>21</sup> <https://tidesandcurrents.noaa.gov/nwlon.html>, last accessed January 31, 2024.

<sup>22</sup> <https://oceanservice.noaa.gov/hazards/sealevelrise/sealevelrise-tech-report.html>, last accessed January 31, 2024.

<sup>23</sup> [https://www.usace.army.mil/corpsclimate/Public\\_Tools\\_Dev\\_by\\_USACE/sea\\_level\\_change/](https://www.usace.army.mil/corpsclimate/Public_Tools_Dev_by_USACE/sea_level_change/), last accessed January 31, 2024.

<sup>24</sup> <https://www.wbdg.org/ffc/dod/engineering-and-construction-bulletins-ecb/usace-ecb-2018-14>, Guidance for Incorporating Climate Change Impacts to Inland Hydrology in Civil Works Studies, Designs, and Projects, last accessed January 31, 2024.

<sup>25</sup> <https://www.iwr.usace.army.mil/Missions/Flood-Risk-Management/Flood-Risk-Management-Program/About-the-Program/Policy-and-Guidance/Federal-Flood-Risk-Management-Standard/>, last accessed January 31, 2024.

<sup>26</sup> [https://climate.sec.usace.army.mil/tst\\_app/](https://climate.sec.usace.army.mil/tst_app/), last accessed January 31, 2024.

<sup>27</sup> [https://climate.sec.usace.army.mil/tst\\_app/](https://climate.sec.usace.army.mil/tst_app/), last accessed January 31, 2024.

<sup>28</sup> <https://climate.sec.usace.army.mil/chat/>, last accessed January 31, 2024.

<sup>29</sup> [https://www.usace.army.mil/corpsclimate/Public\\_Tools\\_Dev\\_by\\_USACE/Climate-Impacted-Hydrology/](https://www.usace.army.mil/corpsclimate/Public_Tools_Dev_by_USACE/Climate-Impacted-Hydrology/).

<sup>30</sup> [https://www.publications.usace.army.mil/Portals/76/Publications/EngineerPamphlets/EP\\_1100-1-2.pdf](https://www.publications.usace.army.mil/Portals/76/Publications/EngineerPamphlets/EP_1100-1-2.pdf), U.S. Army Corps of Engineers Resilience Initiative Roadmap, last accessed January 31, 2024.

<sup>31</sup> <https://www.publications.usace.army.mil/Portals/76/Users/182/86/2486/EP%201100-1-5.pdf>, U.S. Army Corps of Engineers Guide to Resilience Practices, last accessed January 31, 2024.

<sup>32</sup> <https://www.wbdg.org/ffc/dod/engineering-and-construction-bulletins-ecb/usace-ecb-2020-6>, Implementation of Resilience Principles in the Engineering and Construction Community of Practice, last accessed January 31, 2024.

<sup>33</sup> E.O. 11988, Floodplain Management, was amended by E.O. 13690, Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input.

nature-based solution is not feasible or would not be fully effective, the proposal encourages the Corps to include nature-based solutions in other alternatives in the final array, where appropriate, as such solutions are required by law to be considered by the Corps in its water resource development project planning process.

The P&R provides that Federal actions should seek to reduce the Nation's vulnerability to floods and storms. However, that may necessitate water resources development projects located in the floodplain. The Corps would strive to sustain the floodplains' natural and beneficial functions to the maximum extent practicable given the project's purpose and need.

The proposed rule provides that the Corps would avoid unwise uses of the floodplain where possible. This includes uses that would significantly increase or shift flood risks to other populated areas, or otherwise would result in adverse net impacts to human health, safety, welfare, property, natural resources, or the natural and beneficial functions of floodplains. Under this Guiding Principle, the Corps would comply with E.O. 11988 (42 FR 26951), E.O. 13690 (80 FR 6425), and E.O. 14030 (86 FR 27967), and would implement FFRMS through CISA. This will ensure that there is no significant increase or transfer of flood risk to other populated areas, considering a systems approach that includes integrated water resource management. It also will ensure that the proposed water resources investment would not have a disproportionate effect on communities with environmental justice concerns or vulnerable populations, considering the relevant current, future, and potential economic, environmental, and social risks, costs, impacts, and benefits. Where this is not feasible, the Corps would identify and communicate the potential adverse effects on floodplain functions.

Section 234.6(c)(3) Healthy and resilient ecosystems. The proposed ASPs reinforce WRDA 2007's direction to protect and restore ecosystem functions and to minimize and mitigate those impacts if they cannot be avoided. Ecosystems are dynamic complexes of plant, animal, microorganism, and other living communities and the non-living environment interacting as a system. Ecosystems provide important services to humans both directly and indirectly, and they also encompass vital intrinsic natural values.

In order to implement this proposed Guiding Principle in the Corps' ASPs, the Corps would develop alternatives that first seek to improve environmental conditions, then avoid any adverse

environmental impact. If there are any remaining adverse impacts that are unavoidable, the alternatives would seek to minimize those adverse environmental impacts. When impacts are unavoidable, compensatory mitigation for adverse effects would be required as mandated by laws and regulations, such as under the Clean Water Act. This is generally known as mitigation sequencing and is described in regulations such as under the Clean Water Act section 404(b)(1) guidelines (40 CFR 230).

The Corps would seek to enhance the health and resilience of the natural environment in alternative plans, where feasible and appropriate. When formulating a project primarily for a purpose other than aquatic ecosystem restoration, the Corps should consider alternatives that would better protect or help to restore the natural ecosystem. A resilient ecosystem may provide the most cost-effective option for achieving a project purpose, and has the capacity to respond to changes, including climate change. Resilient ecosystems can enhance services provided by the natural environment as well as contribute to the economic vitality of the Nation. For example, the Corps can incorporate nature-based solutions, such as restored vegetated beach dunes or oyster reefs, into a coastal storm risk management water resources development project. Such incorporation of nature-based solutions is encouraged under the reinstated E.O. 13690, Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input (80 FR 6425), where possible.

Ecosystem health is a measure of the performance of complex and interrelated systems. Ecological processes function normally, within the range of natural variability, in a healthy ecosystem. Ecosystem health is often expressed in terms of ecosystem functions, as reflected in the third part of the Federal objective in the P&R. Functions can be particularly hard to measure, whereas the services such functions provide can be more readily measured. A healthy ecosystem also includes organization, structure (*e.g.*, biodiversity), and resilience. There are assessment methods to measure indicators of ecosystem functions (*e.g.*, hydrogeomorphic approaches, California Rapid Assessment Method,<sup>34</sup> etc.) The use of ecosystem services as a proxy for ecosystem function tends to put a more anthropocentric focus on

<sup>34</sup> [www.cramwetlands.org](http://www.cramwetlands.org), last accessed on January 31, 2024.

measuring ecosystem health versus a more habitat-based focus. This can be particularly challenging when applied to the Corps' aquatic ecosystem restoration mission, which does not seek to maximize ecosystem services that may be more easily monetized (*e.g.*, hunting, fishing, or timber sales) but rather focuses on improvements to the functions of the aquatic resources that will benefit the overall aquatic ecosystem. The Army solicits comment on whether there are alternative forms to measure ecosystem health such as specific assessment methods, in particular for the Corps' aquatic ecosystem restoration mission.

Ecosystems are resilient when they are able to respond to and maintain their structure and function under external stress, including climate change and invasive species. Measures of ecosystem resilience often address its two basic components: (1) the magnitude of stress an ecosystem can absorb before fundamentally and irrevocably changing; and (2) the amount of time required before an ecosystem returns to its pre-stressed condition or to another stable condition that functions in ways comparable to its original state. Some simple measures of ecosystem resilience include floodwater storage capacity and population recovery time for an appropriate, scientifically sound surrogate for designated species.

However, systems-level models are needed to accurately describe the interactions of ecosystem components under stress and predict their response. No standard methods or models for measuring ecosystem resilience currently exist. Research on ecosystem resilience is rapidly changing how it is described and measured. Best available tools and methods would be used when evaluating ecosystem resilience of alternatives. The Army solicits comment on particular models, tools, methodology or other information that may be helpful in assessing ecosystem resilience, such as the use of keystone species to provide insight on resilience under changing conditions.

When evaluating water resources investment alternatives, the health of the affected ecosystem should be measured in its current condition (baseline) and projected under each of the alternatives being considered. Where feasible and appropriate, alternatives also should be developed that would help to restore the health of a damaged ecosystem to a less degraded and more natural condition, where required by law (NEPA, ESA, etc.) or where the non-federal interest or others



agree to provide the non-federal share of the cost of this analysis.

Section 234.6(c)(4) Public safety. The proposed ASPs explicitly call for alternatives to avoid, reduce and mitigate significant risks to public safety. Where appropriate, the Corps will incorporate measures to reduce the risk of loss of human life in the formulation of alternatives to address flood and coastal storm risks.<sup>35</sup> The Corps would use available and appropriate tools and methodologies to evaluate the available options to reduce this risk. Although some other agencies use monetized life loss in various decision-making contexts, the proposed ASPs do not require monetization. The Army solicits comment on this issue.

The proposed ASPs require the assessment of potential threats to people, including both loss of life and injury, from natural events in the determination of existing and future conditions as well as the decision-making process. Public safety threats are those resulting from environmentally-related events. The Corps would incorporate reasonable and appropriate public safety practices in its proposed water resources investments. In formulating and evaluating the alternatives, the Corps would use appropriate risk-based analysis techniques, including quantitative methods where practicable, to identify, address, and avoid any additional risk to public safety that a proposed water resources investment might otherwise present.

The Corps would also include measures to manage and communicate the residual risks. The Corps would describe how the alternatives may affect the residual risks, as well as the reliability and durability of those estimates, and would share such evaluations with the public for transparency as well as to inform the investment decision.

In this manner, decision-making would be improved by developing risk-reduction alternatives or recommending alternative courses of action to address potential safety issues, improving the capability to plan, prioritize, and implement risk-reduction actions, and identifying and communicating residual risk. In line with the PR&G, risk analysis to address public safety issues, including public health issues, would include relevant external factors, site-specific considerations, and quantified

and non-quantified approaches to evaluate risks to public safety.

The Corps, other Federal agencies, Tribes, state and local governments, non-Federal interest, and the affected public have a shared responsibility in flood risk management, including reducing the associated public safety risks. In implementing the ASPs, the Corps would work with each of these parties to help them understand their respective roles and responsibilities. The Army solicits comment on whether the description of public safety as proposed should be broadened, as public safety in general may also be threatened by acts of man, such as a terror attack causing a dam failure, or negligence, for example. The Army solicits comment on whether additional threats to public safety should be included for consideration beyond those related to natural events.

Section 234.6(c)(5) Sustainable economic development. Federal investments in sustainable economic development activities contribute to the Nation's resilience. Sustainable is defined in the proposed rule at 234.2(y). As provided in the Guiding Principle under the PR&G, alternative solutions for resolving water resources problems should improve the economic well-being of the Nation for present and future generations through the sustainable use and management of water resources. The proposed ASPs describe sustainable economic development and call for economic, social, and environmental metrics to measure impacts to be incorporated into the analysis of alternatives. The analysis for sustainable economic development would include information on environmental resources and socio-economic conditions (e.g., income, demographics, etc.) in the affected area and how those resources and conditions may change over time. Physical capital, such as value or costs to maintain, may also be presented if relevant. The Corps would use this analysis, as well as the expected outcomes, as no standard set of metrics exist for analyzing sustainable economic development.

As there are likely unintended effects that would be considered, metrics should be identified for both desired and other outcomes. Measures to consider in evaluating sustainable economic development include economic measures, social measures, and environmental measures. Additional measures could also be incorporated where necessary. The assessment would capture all of these measures. Economic measures may include net economic benefits and their distribution across vulnerable

populations, income levels, unemployment considerations, labor force participation rates, job growth, among others where applicable. Social measures may include poverty rates, educational attainment, crime rate, disease rates, life expectancy and others, where applicable, which should be stratified by demographic metrics such as gender, age, race/ethnicity, etc. Environmental measures may include measures of air quality, presence of priority pollutants, hazardous wastes, changes in land use/land cover, water quality issues (e.g., Clean Water Act Section 303(d) listed), species distribution patterns, endangered or threatened species, wildlife prevalence, diversity, changes in ecosystem services and their impact on wellbeing, among others where applicable. The economic, social, and environmental measures would be stratified where appropriate.

Section 234.6(c)(6) Watershed approach. Another Guiding Principle from the PR&G is the use of the watershed approach in the planning process. Watershed is defined in the proposed rule at 234.2(yy). The proposed ASPs require that upstream and downstream relationships are considered in formulating alternatives and in evaluating benefits and costs.

In some cases, a proposed Corps water resources development project or the alternatives may have the potential to provide benefits across multiple Corps program areas, such as flood risk management benefits in addition to aquatic ecosystem restoration benefits. In these cases, a study may result in a recommendation for a multi-purpose project. In a post-authorization study, the Corps should not use the existing project authorization as a screening tool to limit reasonable alternatives that may otherwise provide a more complete solution. The Congress can amend the existing project authorization based on a recommendation of the Corps study. Also, a Corps study can recommend a community-based solution that the Corps would not implement, where the solution is more suited to another Federal agency or to a Tribal, state, or local government.

The Corps conducts each of its project studies primarily to address an identified, specific water resources problem or opportunity. The watershed approach primarily ensures that the Corps will assess how the proposed project and the alternatives would affect both the existing and a full range of the potential future uses of water in the watershed. However, in some cases, this kind of an analysis may also lead to a more complete range of holistic alternatives, which would achieve

<sup>35</sup> See, e.g., Planning Bulletin on Incorporating Life Safety into Flood and Coastal Storm Risk Management Studies, PB 2019-04, <https://planning.erdc.dren.mil/toolbox/library/PB/PB2019-04.pdf>, last accessed on January 31, 2024.

multiple goals. A watershed approach is conducted at a systems level to identify root causes and how they connect to problem symptoms. A watershed approach also ensures that alternatives consider the effects, including cumulative effects, and benefits conveyed throughout the watershed to understand the full range of public effects. The Corps would also assess any effects which may occur beyond the watershed, where appropriate, such as existence value benefits.

There is no particular watershed scale dictated by the PR&G for use in evaluation, and as such, the Corps would identify the most appropriate delineation to address the identified, specific water resources problem or opportunity. The study area would include the most immediate part of the watershed, which is most likely to be affected by the alternatives under consideration. The analysis may also need to include other parts of the watershed, for example, to include the effects on all of the people potentially affected by the ecosystem service changes (e.g., by identifying relevant servicesheds). Where appropriate, the analysis also may include areas beyond the watershed that are connected to it by infrastructure (e.g., that transfers or affects flows of water among hydrologically unconnected watersheds or populations). The study area would potentially include these additional areas, where the impacts are sufficient to warrant a broader review. The scope and scale of watershed assessments can vary and the geographic area under review should be large enough to ensure plans address relationships among affected resources and activities pertinent to realizing public benefits. The extent of evaluations across a watershed should also reflect the nature of the relationships.

In addition, the Corps' assessments would evaluate the interaction of a potential Federal, state, local, or other known investment with other water resources projects and programs within a region or watershed. In this manner, all effects and potential benefits would be evaluated in an interconnected manner, as one Federal investment may affect another Federal or non-Federal investment. Watershed conditions would be assessed in the evaluation. Such information may include but is not limited to: current trends in aquatic habitat loss or conversion; cumulative impacts in the watershed; current and future projected water resources utilization trends; species and other natural resources conservation; and chronic problems such as flooding, among others as appropriate. This

analysis would include the effects on the people, businesses, and environmental resources of the affected area, as well as relevant economic and social characteristics of this area. The watershed approach is not a mechanism to expand the scope of the proposed Federal investment, but is rather primarily a way to document and consider the context within which the Corps is proposing a targeted Federal investment.

This type of approach may shift the Corps to think about water resources problems more holistically, to look at them from all sides and include all causes, effects and relationships, and then to identify who is best suited to implement the alternative (which may be another Federal agency, or a Tribal, state, or local government). The Army solicits comment on example frameworks, tools, and methods for implementing a watershed approach, such as whether the Basin-Scale Opportunity Assessment led by the Department of Energy could be adapted for use under the ASPs. However, the Corps would adapt to use the best available science for such evaluations as they are developed in the future.

Section 234.6(d) Collaboration. Section 234.6(d)(1). This proposed paragraph outlines an increased focus on collaboration for the Corps to improve decision making and promote transparency. The Army recognizes that Tribal Nations, regional, state, local, and non-governmental entities, as well as communities and landowners are interested in the water resources problems that affect them, have expertise, and share in the responsibility of managing and protecting public water resources. The planning process would seek to collaborate fully with a wide range of affected entities and stakeholders, and the public in all stages of the planning process. The Corps would initiate coordination with appropriate Federal or state agencies administering Federal laws as early in the process as practicable to fully integrate environmental considerations into the planning process, identifying early on critical information and requirements needed for the planning decision, and maximizing opportunities to avoid and minimize impacts to the human environment to the extent practicable. For example, consistent and meaningful engagement between EPA and the Corps during early phases of the water resources project plan may help enable a more efficient and effective decision-making process, which meets all of the applicable environmental regulatory requirements. This proposed level of

collaboration and engagement ensures that the Corps' planning process integrates various considerations from a multitude of perspectives, allowing for a more thoughtful and holistic consideration of potential alternatives, and potential effects and benefits of a proposed water resources investment. The proposed paragraph recognizes that such enhanced collaboration can assist the Corps in improving the planning process to better identify the problems, opportunities, constraints, and goals and objectives of a planning study. More locally preferred and locally appropriate project elements may also be identified from such collaboration resulting in improved benefits to such communities. Ensuring meaningful, regular, and robust engagement will result in more opportunities for communities to directly contribute to projects that may have positive benefits for their communities as well as contribute to considerations of effects and costs to those communities and ways to avoid, minimize or mitigate for those effects. These engagements should account for the desired form and type of engagement from communities, to ensure such engagements are culturally relevant and appropriate. Another key element of the enhanced collaboration is transparency, ensuring that all relevant Tribal Nations and interested parties are kept informed about the Corps process and various factors under consideration. The Army recognizes that enhanced collaboration and engagement will take time, skill, and commitment on the part of the Corps and project sponsors, as well as those who are engaging in the Corps' process. However, integration of enhanced collaboration into the planning process is necessary for informed and wise Federal investment decisions. Leveraging information and resources from others can result in improved efficiency and save resources.

Collaboration can also be used to fulfill some of the Guiding Principles, such as a watershed approach, as working with others can best identify and understand problems and opportunities in a systems context. It is also useful to collaborate to identify other ongoing or planned activities in the watershed for understanding both the current and potential future conditions of a watershed. Environmental justice can also best be achieved when applying a collaborative approach to best understand community concerns. In addition, ecosystem services related to healthy and resilient ecosystems are also best understood using a collaborative approach.

The proposed paragraph also makes clear that enhanced collaboration does

not obviate the need for Tribal consultation, where appropriate. In addition, Tribal consultation does not obviate the need for the Corps to ensure that enhanced collaboration with Tribal Nations occurs. Consultation and enhanced collaboration are not the same thing, and in certain circumstances Tribal engagements demonstrate a desire for and result in a greater understanding of the Tribal Nations needs than what may be achieved in consultation. Engagement beyond consultation is necessary to improve overall relationships and communication with Tribal Nations, and to identify areas for participation in and access to Civil Works programs.

Section 234.6(d)(2) Although this proposed paragraph recognizes that tools and levels of engagement will vary based on a variety of factors, the section requires intentional design based on best practices of engagement (e.g., the spectrum of engagement from the International Association for Public Participation and modifications from various U.S. government agencies including the Corps). Whereas collaboration is standard in current Civil Works planning at the scoping stage and after a plan has been tentatively selected, this section explicitly urges collaboration throughout the planning process including during alternatives evaluation and tradeoffs. In addition, the Corps will ensure that it considers and incorporates the information that it receives from Tribal Nations and external sources into the problem definition, the forecast of future conditions, and the alternatives analysis. See the environmental justice section of the proposed rule and preamble for other considerations in engaging communities with environmental justice concerns (see 234.6(c)(1)).

Another element of enhanced collaboration is in instances where a water resources problem identified in community engagement is beyond the Corps' traditional mission areas. In such instances, the Corps can collaborate with Tribal Nations, Federal, state, and local agencies, and non-governmental organizations or private entities, through a formal or public participation process such as in scoping, to identify alternative solutions to the problem, including solutions that may be outside Corps mission areas but where communities may seek further assistance elsewhere. The PR&G may result in alternatives that are outside (in whole or in part) of the Corps mission areas or its core capabilities, or are better suited to another Federal agency

or a Tribal, state, or local government. The benefits of enhanced Federal collaboration can include the sharing of data to identify the alternative solutions that maximize net public benefits or the leveraging of resources outside of the Corps to implement these solutions.

Enhanced collaboration also helps to ensure transparency, promotes Tribal and public participation, and assists in developing community-driven solutions to water resources problems. In general, collaboration may include, but is not limited to: sharing of science and data, including Indigenous Knowledge; sharing of analytical tools or expertise; sharing of values and priorities; interdisciplinary or inter-agency teams; peer review processes; and post-project reviews. The Corps would ensure that the collaboration includes opportunities for engaged participants to assess the efficacy of the collaboration, identify areas of concern that could be redressed moving forward, note areas of success to continue to build on for the effort at hand, and discuss lessons learned to inform future efforts. It will also help ensure that the right problem is being identified and the study focuses on appropriate goals and objectives.

Section 234.6(e) Investigations and data collection. This proposed section discusses that investigations and data collection should occur early and on a recurring basis throughout the planning process. The proposed section outlines areas for the study team to consider and relevant data to collect in investigations. It recommends that the Corps leverage existing information; and conduct new investigations and data collection, where appropriate, when existing information is not present.

Section 234.6(f) Identify purpose, problems, needs, and opportunities. This proposed section sets out the requirements to identify purpose, problems, needs and opportunities. The section also sets expectations for early collaboration with Tribal Nations and stakeholders (also see 234.6(d)) to ensure that the right problem is being identified and the study focuses on appropriate goals and objectives. The Corps would begin with a clear definition of the water resources challenges, including a statement of the problems and/or opportunities to be addressed. The causes of the problems should be identified, as well as any constraints, and the relationship of the problems to the missions, statutory authorities, and other requirements of the Corps. Clearly defined problems, opportunities, and constraints are key to enable the Corps to identify a potential Federal investment for consideration. In general, this step corresponds to the

identification of the project's purpose and need under the NEPA; however, the scoping process for a Corps study may be different than what is required under NEPA scoping. Typically, more background information is available when NEPA scoping is conducted. Corps study teams may not have all of the information that is identified in this proposed scoping section of the rule during the initial development of the project management plan. For example, the formulation of planning objectives and constraints to be used in the analysis of the Federal investment cannot be developed until other actions have been conducted, such as inventorying and forecasting, that are identified in the study scope. The scoping process is an iterative process. The scope would include actions to obtain stakeholder, partner, and public input; however, that input may not be available early on in the study process. The Corps would seek to align the study scoping for a project and NEPA scoping to the extent practicable. A watershed-based or systems approach should generally be applied when defining the scope of a water resources challenge. To most fully integrate the PR&G and NEPA processes at the earliest stages, the Corps would describe and request public input on the PR&G analysis in the Notice of Intent to prepare an EIS.

As implementation of NEPA and the implementation of the PR&G should be fully integrated, the identification of problems, needs, and opportunities applies to both applications and can be accomplished in study scoping. The Corps would ensure that the planning goals and objectives are consistent with the authorizing legislation for the study. The Corps should not limit the consideration of alternatives to those that fall within Corps missions, if the inclusion of other alternatives may otherwise provide a more complete or community-based solution and such additional consideration is within the Corps' study authorization. Where possible, the Corps should strive to look holistically at the water resources problem. The Army solicits comment on how to address specific limitations on the scoping process, due to factors such as the scope of the study authority, cost sharing requirements, non-Federal interest support, and Corps mission areas and core capabilities. For example, other Federal, state, local, or Tribal programs or projects may align with the study's goals and objectives and the consideration of these measures within an alternative may produce additional, synergistic net benefits. The Army solicits comment on whether there may

be terms and conditions under which additional consideration may proceed that would enable the Corps to consider alternatives beyond those that the non-Federal interest supports.

The Corps would also identify the purpose of the study, the role of the Federal government, and the various perspectives of those participating in the process. The purpose and scope of the study should be broad enough to cover the full range of reasonable alternatives, while avoiding an unwieldy number of alternatives. The various perspectives from those participating in the process can ensure a more robust and holistic view of the current conditions and potential solutions to the key water resources challenges.

The Corps would identify the water resources problems or opportunities in scoping, but would not use this process to exclude reasonable alternatives. The Corps would use enhanced collaboration and the Guiding Principles in developing the scope of the study. The Corps would define the study area and describe stakeholder engagement strategies. The Corps would ensure in doing so that it employs the watershed approach, and considers enhanced collaboration, as well as the Guiding Principles, such as environmental justice. The Corps also may refine or reconsider the scope of the study during the study, based on new information or at the request of any interested party, where appropriate. The Corps would prepare a summary of the planning objectives and constraints, including a summary of input received. The constraints could be legal or environmental, for example. The summary of input received should also provide responses, where appropriate.

The Corps would also include a discussion of the social and cultural aspects of the affected area and its resources, including Tribal resources, treaty rights, and matters related to environmental justice. This can help identify potential areas of concern, needs which should be addressed, and helps inform the current conditions as well as the future conditions. There may be other important areas to be identified in scoping that would be included, as appropriate, such as specific areas of consideration for the study area and water resource challenge under review that are not captured in this preamble.

Section 234.6(g) Inventory Existing Resources and Forecast Future Conditions. To determine baselines, the Corps would identify the existing conditions and the baseline levels of ecosystems services and, to the extent practicable, identify current trends and

variability in key environmental and economic indicators and conditions such as climate, population, urbanization, and land use. The current existing conditions provide the baseline for forecasting both the future with- and without-project conditions. This proposed section describes the need to inventory existing information and resources and to forecast future conditions. This step corresponds to the NEPA identification of the affected environment. The inventory and forecast provide a basis for comparison of the effects of alternative water resources investments on objectives. The proposed section also describes the without-project condition and the with-project condition including the need to consider climate and other likely changes in establishing scenarios to compare effects of alternatives. Such evaluation and forecasting across the alternatives would confirm the problems, needs, and opportunities that the study would address in the subsequent steps. The inventory and forecast would provide information for understanding existing conditions and establishing a baseline for forecasting with- and without-project conditions. The inventory and forecast should include other related Federal and non-Federal investments within the region or watershed, which the Corps would consider to ensure consistency of purpose, maximize effectiveness, reduce costs, or identify other potential alternative solutions.

The existing and forecasted future conditions would include descriptions of the economic, environmental, and social setting within the study area. It would take into account future climate change, and economic development and land use change scenarios. A watershed approach should also be used in describing current and future conditions. Those descriptions would discuss how affected resources are interrelated, describing their functional relationships, as well as their ability to produce or impact ecosystem services. In this manner, the connections between the resources and services within the study area and broader watershed will become apparent and allow the Corps to better analyze how a change in targeted water resources may impact those resources and services. The descriptions would also provide details on the existing and future conditions with respect to economic metrics, such as investment, markets, and productivity; environmental metrics, such as water quality and quantity or air quality components; and social metrics, such as

income levels, race and ethnicity, and health burdens.

The Corps would use peer-reviewed (where possible and appropriate) and common projections of the factors listed above. In addition, Indigenous Knowledge and local knowledge should be included in the descriptions, following appropriate procedures for free, prior and informed consent for use in the descriptions. The conditions would be described as appropriate and applicable to the specific investment, with consideration for the Guiding Principles of the PR&G. The Corps would also ensure consistency in the approach applied and conditions assessed across the existing and future condition inventories. The level of detail provided in the inventories should be commensurate with the rest of the analysis and level of scope and scale of the proposed Federal investment. Not every analysis must include detailed surveys and fieldwork and the Corps should rely on existing data, and information, and leverage existing resources to the extent practicable. In some circumstances, a conceptual model can be used to best explain to the public and decision makers in plain language and visual representation, how natural, social, and economic systems interact and how ecosystems provide services to communities and the natural environment. The inventory would also define the ecosystem services that exist in the study area.

The forecast of future conditions is comparable to the NEPA identification of future impacts associated with the proposed alternatives. The Corps would predict and identify what the future conditions of the study area may be across the various alternatives. Such comparison would also be conducted with the No Action alternative. Any key assumptions made for forecasting of future conditions would be disclosed.

The “without-project” and “with-project” conditions refer to the conditions that the Corps estimates are “most likely” to occur in the future over the period of the analysis. Since the future is inherently uncertain, the Corps study should identify and describe the key known drivers of the uncertainties. In some cases, the Corps also would use scenario analysis to evaluate the extent to which the uncertainties may affect the investment decision. For example, for climate change, the Corps uses scenario analysis because the science relies on a range of values (*i.e.*, levels of greenhouse gas emission and their impacts) and it is difficult to determine which value is more likely to occur than others within that range. The Corps

would implement additional scenario analyses in cases where a reliable forecast of future conditions is not possible. The inventory of existing resources and forecast of future conditions should also include assumptions for scenarios and for extreme weather events to evaluate sensitivity of alternatives to a range of conditions, such as drought or hurricanes. The E.O. 14008 (86 FR 7619) directs agencies to build resilience against the existing impacts of climate change as well as those which will continue to intensify according to current trajectories. The Corps would use the scenario analysis and discussions on extreme weather events to inform how alternatives may perform under future conditions with respect to climate resilience. There are also uncertainties from other sources that would benefit from additional scenario analyses.

As described in the collaboration section (234.6(d)), the Corps should ensure other relevant Federal and non-Federal investments are included in the conditions assessments. Reasonably foreseeable actions by public and private entities should be included to understand how key resources and services may change in the future and to be used to better understand the most likely future condition in the absence of the proposed Federal investment. As with any projections of future conditions, there is an inherent degree of uncertainty; the Corps would identify and characterize the degree of uncertainty for the projections made. Such characterization should be quantitative, when feasible, and qualitative when not and provide a commensurate level of detail to the analysis. Any residual risk that is not proposed to be, or cannot be, addressed or mitigated would be disclosed to aid in the decision-making process. If the uncertainty regarding current conditions is sufficient to affect the analysis, the Corps may develop multiple baselines. Where the effects of climate variability and climate change are relevant to the investment decision, the study should fully describe the key sources of the uncertainty and the range of its possible effects over time.

The proposed future “without-project condition” is what is expected to occur, over the period of analysis, in the absence of a Corps project or program. The Corps currently uses a 50-year timeframe for the period of analysis (see ER 1105–2–100<sup>36</sup> section 2–4j). Future

land use changes would be incorporated. The future “without-project condition” is the baseline for comparison of alternatives. The proposed future “with-project condition” is what is expected to occur in the future, over the period of analysis, with a specific Corps proposed project or program in place. As described in discussion of Floodplains in the preamble at 234.6(c)(2), the Corps uses the CISA when assessing climate change conditions and climate resilience related to flooding of all Civil Works studies, ensuring climate adaptation is considered. Climate change would need to be considered in both the future “without-project” and “with-project” conditions. The Corps has a host of tools and guidance that it uses to implement the CISA, as previously described in 234.6(c)(2). Projections of future conditions would account for expected environmental, social, and economic changes, including those that result from climate variability and climate change, in particular for projects with a relatively long service or operational lives, as these projects may be subject to additional climate variability and change.

The Corps would develop a summary of the process used to identify the existing and future conditions for the administrative record. The summary ensures that appropriate considerations were incorporated and provides transparency in the process. The Corps would ensure the summary includes discussion of Tribal, partner, stakeholder, and public inputs. Identification of existing resources seeks to quantify relevant resource conditions in the study area as they currently exist. The forecasting of future conditions would do the same over the period of analysis. The period of analysis does not reflect the expected service or operational life of the investment. The Army solicits comment on what the standard period of analysis should be when the Corps implements the PR&G. For example, rather than a traditional 50-year period of analysis, should the Corps use a longer or shorter period of analysis of changes relative to the baseline and, if so, why? The Corps recognizes the importance of consistency and comparability both in evaluating alternatives and in comparing performance across a portfolio of projects. However, the Corps could consider multiple periods of analysis for different alternatives to not bias selection of one alternative over another. Where relevant, the Corps also could describe how the period of analysis may result in different

assessments of alternatives to ensure transparency and informed decision-making.

Section 234.6(h) Formulate Alternatives. The next proposed paragraph of the Corps’ ASPs establishes the primary function for plan formulation as developing the full range of alternatives that will address the water resources problem and sets the evaluation criteria of acceptability, efficiency, effectiveness, and completeness. These criteria carry over from the 1983 P&G. Investigations, data collection, and analysis should be ongoing, and should leverage and incorporate information from Tribal, state, local, non-governmental, scientific and economic literature, and other relevant sources.

A range of potential plans must be investigated with a subset retained for further analysis, including alternatives with only nonstructural elements and the environmentally preferred alternative. Nonstructural measures and nature-based solutions<sup>37</sup> are important considerations of the PR&G and should be integrated into alternatives for water resources Federal investments wherever appropriate. As with structural solutions, considerations should be made for technical feasibility, land use, cost, past performance, and longevity, for example. In addition, the proposed rule requires the Corps to include the environmentally preferred alternative in the final array of alternatives, which is consistent with the current Corps’ planning process as well as consistent with NEPA.

Alternatives analyzed shall seek to address the subject water resources challenge, problem, or need identified in 234.6(f) based on the most likely future conditions. Alternatives that do not address the problem should not be carried forward. The alternatives should seek to achieve the planning and Federal objectives and follow the Guiding Principles. Alternatives should identify solutions that are feasible and meet planning objectives. It is an unwise use of Federal investments to continue to explore alternatives that do not meet these goals. The range of alternatives provides a reasonable basis for comparing the relative effectiveness and efficiency of the alternatives. The alternatives must strive to achieve economic, environmental, and social goals. In addition, as noted in 234.6(e), the same period of analysis should be used in alternatives analysis. The period

<sup>36</sup> [https://www.publications.usace.army.mil/portals/76/publications/engineerregulations/er\\_1105-2-100.pdf](https://www.publications.usace.army.mil/portals/76/publications/engineerregulations/er_1105-2-100.pdf), last accessed January 31, 2024.

<sup>37</sup> See <https://www.whitehouse.gov/wp-content/uploads/2022/11/Nature-Based-Solutions-Roadmap.pdf> (last accessed on September 21, 2023) for more information on nature-based solutions.

of analysis selected can bias selection of one option or another. A shorter analysis period would benefit alternatives with less upfront costs and more upfront benefits, as compared to an alternative with more upfront costs but more long-term benefits and lower cost over time. Thus, the period of analysis selected must be long enough to account for costs and benefits including the principal significant long-term effects. On the other hand, some project features may have a very long expected lifetime. In these cases, it may not be productive to cover the project's full lifespan in the analysis, *e.g.*, if the costs and benefits in the far distant future are very uncertain or would not affect the Federal investment decision.

When an alternative is beyond the Corps missions (which are: commercial navigation, flood and storm damage reduction, and aquatic ecosystem restoration), such alternatives can be carried forward for further analysis where they provide solutions to the identified problem, meet the goals of the PR&G, and appropriate funding is available or may be available (including from other agencies and partners without Corps action). In such case, the alternative should specifically identify the relevant parties with requisite responsibility for any action beyond Corps missions, their authority for that action, the interrelation between that action and the recommended Corps project, and appropriate sequencing of implementation. Any recommendations for authorization should clearly delineate the federal water resources project(s) being recommended for authorization and Corps implementation and any condition precedent for construction, with specificity. The proposed rule provides that for Corps investments, the Corps would be the designated lead for completing the PR&G analysis. In many Corps studies, the non-Federal interest pays a share of the cost. The Army solicits comment on whether and when the Corps should consider alternatives beyond those that the non-Federal interest supports, such as when an alternative may be beyond Corps missions.

The rule provides that the Corps would continue to justify each project purpose separately, and to size each of the project features, based on an incremental analysis of the benefits and costs. In this incremental formulation of the alternatives, the Corps would decide how best to weigh the different kinds of benefits (rather than automatically giving each of the benefit categories "equal" weight). Similarly, the rule also provides that the Corps would continue

to justify each hydrologically separable element of a project separately, based on an incremental analysis of the benefits and costs, and to identify them in its recommendations as separable elements.

Section 234.6(h)(1). In this proposed paragraph, the screening of alternatives in a systematic manner is discussed. An initial set of alternatives would be refined as determinations are made that such alternatives do not meet the purpose and need, are too costly, entail unacceptable unavoidable impacts, or do not meet other factors. The refinement would also consider the Federal objective and the Guiding Principles. Alternatives that are eliminated should still be briefly discussed in publicly available documents and the Corps would include the reasons for their elimination. The remaining alternatives are considered the reasonable range of alternatives to be carried through the analysis and NEPA evaluation. They should be distinct enough to warrant individual consideration and entail different potential solutions to the water resources challenges. The alternatives must also describe the avoidance, minimization, and compensatory mitigation considerations for each identified alternative solution. Appropriate mitigation of adverse effects is to be an integral part of each alternative plan. The alternatives should describe not just the economic, environmental, and social conditions and benefits but also impacts. Alternatives should also describe any institutional barriers that may be present to effectuate the solution, including statutory requirements, implementation authority, regulation changes, implementation policy, etc. Transparency and full consideration of economic, environmental, and social effects, both quantifiable and non-quantifiable, must be provided for each alternative. The Corps would also describe the social, environmental, and economic impacts of not investing, or underinvesting, in any Tribal or disadvantaged communities, in particular under the future "without-project" condition and the "no action" alternative. Programmatic-level procedures would generally be expected to have fewer alternatives than project-level procedures, as they are generally of a lower level of detail with fewer options for developing them.

In all cases, the alternatives analyzed under the PR&G would be included in the NEPA document. As discussed previously (234.6(f)), the Corps would work to integrate the PR&G analysis with NEPA to the extent practicable.

Where differences exist, the Corps would describe such differences in the documentation. In addition, where a Corps alternative has discrete measures or separable elements, each should be evaluated as discrete units. Plan formulation needs to describe the features and capabilities of any discrete measures as well as the full alternatives.

#### Section 234.7 Evaluation Framework.

Section 234.7(a) The proposed ASPs are intended to provide a common framework and requirements for the Corps to use in evaluating potential alternatives for Federal investments. The Corps would use the Guiding Principles and evaluate the contributions to the Federal Objective to inform the process. While the basic planning framework for the PR&G is similar to the P&G framework, this section includes many areas of new or additional focus specific to the PR&G planning framework. To the extent applicable, the Corps may use existing frameworks and practices (*e.g.*, aspects of ER 1105-2-100)<sup>38</sup> as long as they are relevant and acceptable under the PR&G framework.

The Corps would quantify/monetize effects to the extent feasible and appropriate, and describe effects that cannot be quantified or monetized. The Corps would focus evaluation on economic, environmental and social effects that could impact the decision-making to avoid unnecessary time and costs. The Corps would include all significantly affected economic, environmental, and social effects, and ensure the evaluation framework would not leave them out if they cannot be monetized or quantified. The Corps would generally follow Circulars A-4 and A-94 in this approach.

Section 234.7(b) Economic, environmental, and social effects. The Corps would identify and evaluate the economic, environmental, and social effects across the alternatives. In this evaluation, the Corps would focus in each study on the key data that will affect its estimates of the benefits and costs and are most pertinent to the decision at hand.

The Corps proposes to consider adoption of any finalized OMB guidance on ecosystem services (proposed at 88 FR 50912)<sup>39</sup> for any final rule issued for

<sup>38</sup> [https://www.publications.usace.army.mil/portals/76/publications/engineerregulations/er\\_1105-2-100.pdf](https://www.publications.usace.army.mil/portals/76/publications/engineerregulations/er_1105-2-100.pdf), Planning Guidance Notebook, last accessed January 31, 2024.

<sup>39</sup> Request for Comments on Proposed Guidance for Assessing Changes in Environmental and Ecosystem Services in Benefit-Cost Analysis. <https://www.govinfo.gov/content/pkg/FR-2023-08-02/pdf/2023-16272.pdf>, last accessed on January 31, 2024.

the Corps' ASPs to evaluate the social and economic outcomes resulting from environmental changes. The Corps would also employ other methods to evaluate the direct economic and social effects as well as traditional benefit-cost analysis (see Circulars A-4 and A-94). Ecosystems provide services to people. Ecosystem goods and services are those aspects provided by nature that benefit humans. A distinction is sometimes made between ecosystem goods (tangible commodities produced by nature, e.g., timber production) and ecosystem services (less tangible benefits of well-functioning natural systems, e.g., wetland water quality maintenance), but the phrase ecosystem services often refers collectively to all of these benefits. Federal investment impacts on the environment or ecosystems that affect people may be understood in terms of changes in service flows. A complete accounting identifies, at a minimum, impacted services and the projected trend of each service flow. This framework is well suited for analyzing many values associated with the natural resource, as it starts from the assumption that all relevant ecosystem services should be evaluated. The ASPs, consistent with OMB guidance, call for monetization where possible, quantification where not possible, or description of effects if neither is possible, of all ecosystem services that have economic, social or environmental impacts that will affect decision making. Qualitative information used when it is not practicable to provide quantified or monetized information would be given similar consideration in evaluation.

The Corps' PR&G analysis would display information on environmental and social effects in addition to economic effects in order to provide decision-makers with additional information as they select among alternative actions. Early engagement with communities that could be affected by a project would be helpful to obtain information on how various actions may improve or degrade social benefits. Environmental changes that result in changes in social benefits or changes in ecosystem services may include changes in social interaction and community; quality of life; safety, mental and physical health, family and individual well-being; improvements in attitudes, beliefs and values (includes culture and religion); and more. The Corps would ensure that these benefits are assigned to one category (environmental, social, or economic) to ensure that multiple benefits that may overlap are only counted once.

Monetization should follow sound economic principles and practices (See OMB Circulars A-94<sup>40</sup> and A-4<sup>41</sup> for examples of currently accepted monetization practices). Discounting is to be used to convert future monetary values to present or annualized values, consistent with the statutory requirements for the agency and relevant agency or Administration guidance (e.g., OMB Circulars A-94 and A-4).

Ecosystem services of potential interest in water resource evaluations could include, but are not limited to: water quality maintenance for drinking, health, recreation, energy production, transportation or industrial uses; flood risk management to reduce the risk of loss of life and the risk of damage to property and infrastructure; water supply or drought risk reduction for drinking, recreation, real estate, energy production, agriculture, transportation or industrial uses; aquatic and riparian wildlife and places for recreation or culturally valued experiences; wild populations, places or features existence; greenhouse gas effects on various services; productivity for food, timber, fish, crops and other products; and nature for aesthetics in viewsheds.

In its flood and coastal storm risk management project studies, the Corps may include an additional analysis of the benefits using distributional weights to inform investment decisions as well as allow for the weighting of costs, where appropriate. This analysis could provide a more equitable way to measure the welfare impacts of these projects on people and their communities, by reducing the extent to which the average value of the property that is at risk affects the estimated project benefits.

The Army notes that one of the Guiding Principles of the PR&G is healthy and resilient ecosystems. NEPA analyses evaluate environmental changes and will provide important information on environmental effects of alternatives. NEPA analyses may also include or provide inputs for effects analyses. The Corps analysis would account for relevant effects of alternatives on environmental changes that impact people, including analysis beyond what may be included in NEPA analysis. In addition, the Corps analysis would include its estimates of the costs and benefits in accounting for overall net benefits. This framework supports

<sup>40</sup> <https://obamawhitehouse.archives.gov/sites/default/files/omb/assets/a94/a094.pdf>, last accessed January 31, 2024.

<sup>41</sup> <https://www.whitehouse.gov/wp-content/uploads/2023/11/CircularA-4.pdf>, last accessed January 31, 2024.

the identification of alternatives that maximize net public benefits.

When monetization and quantification are not possible, descriptions that merely list and/or laud benefits are less useful to decision-makers than descriptions that allow meaningful differentiation of effects across alternatives. For quantified and non-quantified effects, professional judgment, bolstered by evidence where available, is expected to be exercised in determining how important the benefits or costs may be in the context of the overall analysis. If the quantified or non-quantified benefits and costs are likely to be important, "threshold" or "break-even" analyses are approaches that may be useful to evaluate their significance, as well as "screening" or "order-of-magnitude" analyses. Whatever analytical technique is used, reports should indicate, where possible, which non-monetized described changes are most important and why.

The proposed paragraph describes that ecosystem services to be considered include market and non-market commodities, in addition to the services that provide use and non-use values. As there are various methodologies appropriate for identifying and measuring changes, the Corps would use the most appropriate metrics and methods to evaluate the alternatives, commensurate with the scale, scope, and complexity of the water resources investment decision.<sup>42</sup>

In some cases, monetizing ecosystem services may be as simple as adding an additional parameter to other equations or calculations. For example, an agency may already be using a flood risk model to estimate property damages, but that model may not capture the way that natural vegetation affects flood risk. Assessments should monetize effects when possible.

When assessing economic, environmental, and social effects, the Corps will first look for existing data that may be relevant to the question at hand, including market and non-market data. The Corps will also consider Indigenous Knowledge. Assessments should monetize effects when possible. Market data on production and sale of such goods is readily available, for example through the U.S. Department of Agriculture. When monetization is not feasible, the Corps will quantify where possible and describe service changes, when it is not. Quantification does not have to be numerical; it can also be

<sup>42</sup> <https://www.govinfo.gov/content/pkg/FR-2023-08-02/pdf/2023-16272.pdf>, last accessed on January 31, 2024, provides additional information and guidance on this topic and the Corps proposes to consult that document upon finalization.

categorical as long as the indicators are clearly defined, capture the intended attribute as precisely as possible, free of observer bias (*i.e.*, the same regardless of who estimates it), repeatable over time, and sensitive to changing conditions. Qualitative, quantitative and monetized information will be given full consideration in decisions. Where qualitative descriptions and analysis are used, they would be of sufficient detail to enable the decision-maker to make informed decisions. Such qualitative descriptions would be considered with quantitative information.

For a proper accounting of changes in ecosystem service value, it is important to fully articulate the processes and functions that relate ecosystem structure and processes to the benefits directly enjoyed by humans. The evaluation of benefits should then focus on the final endpoints of this relationship that might be produced by one or more intermediate ecosystem services and supported by other ecological processes. Focusing on these final endpoints will help avoid double counting. Changes over time as well as any uncertainty in assessing impacts of an action on ecosystem service production would be described.

Many ecosystem services provide benefits to people not located where the service is produced. For example, while those who live just downstream from a wetland or regularly view scenic landscapes in a known park may be well-understood as beneficiaries, others who live farther away may be harder to identify. Services that provide non-use values (*e.g.*, existence values) might provide benefits to individuals across the U.S., with no clear relationship between distance to the resource and value. The Corps would identify those populations who may be impacted by a change in the resource to the extent feasible. The results of the analysis would clearly define these groups and describe how the groups were identified. The Corps would also note whether subgroups within a population may be affected differently by a change, such as on the basis of geographic location, income levels, etc.

The Corps' analysis would describe when benefits are likely to be realized, and when costs are likely to be incurred. To enable comparison of benefits and costs occurring at different times, appropriate discounting methods would be used. When benefits are not described monetarily, a discussion of the impact of waiting for future benefits would be included.

The Corps uses ecosystem services now to evaluate the benefits and costs of its proposed water resources

development projects, to assess resource-related losses and in determining restoration to compensate for resource-related losses, to improve resource program planning and management, and in application of modeling tools. This proposed rule preamble is not intended to provide a "how to guide" on ecosystem services or to provide comprehensive or specific instructions on how to implement the analysis but rather to provide general concepts. As stated earlier, the Corps would consider and seek to implement any forthcoming final ecosystem services guidance from OMB (88 FR 50912).

The Army solicits comment on any specific tools and methodologies that commenters may wish to recommend for quantifying or monetizing economic, environmental, and social effects.

Section 234.7(c) Best available actionable science and commensurate level of detail. To support the evaluation of alternatives, the analysis should use the best available actionable science, Indigenous Knowledge, data, techniques, procedures, models, and tools across the wide variety of pertinent subjects. As stated in other sections of this preamble, the effects of the alternatives should be monetized where feasible. Across the alternatives for any given proposed water resources investment, consistent methodology should be applied and established tools can also be routinely used to improve consistency across decisions. However, the Corps would adapt to new science, knowledge, data, and tools as they are developed and proven. This helps ensure the Corps does not simply react to constantly changing up-to-date science. By relying on actionable science rather than latest available, the Corps avoids requiring the adoption of new procedures only to remove them again shortly thereafter if differing scientific views emerge. Similar to other areas within the proposed ASPs, the level of detail, scope, and complexity of analyses should be commensurate with the scope of complexity of the decision. By scaling the level of detail and collection of data to the relevant decision for investment, unnecessary and excessive cost and expenditure of resources may be avoided. For example, for a smaller study that qualifies for scaled analysis under this proposed rule in Table 1, such as a study under the Corps' Tribal Partnership Program or the Continuing Authorities Program, the Corps would generally use the best available actionable data and information using existing sources to the extent practicable. Rather than expending a large investment to gain a

small level of refinement to existing data, the Corps may make judgments as to the range of acceptable information to make informed decisions. The level of detail and granularity of the data would generally be commensurate with the scale, scope, and complexity of the water resources investment decision. In addition, the most relevant and appropriate science for the particular investment would be used. This would result in the information best suited to inform a decision regarding a subject investment. Refer to 234.6(g) regarding describing future conditions and addressing the inherent uncertainty.

Section 234.7(d) Risk and uncertainty. To improve decision-making, the ASPs require that risks and uncertainty be identified, described, considered, and quantified if possible. This section calls explicitly for consideration of the costs and benefits of reducing risks and uncertainties. The Corps would align its disclosure, consideration, and assessment of risk and uncertainty with Circulars A-4 and A-94 to the extent practicable. A useful definition of "risk" for planning purposes is the likelihood of a specific magnitude of a harmful outcome occurring in the future. "Uncertainty" is used to express doubt or lack of knowledge about a positive (beneficial) or negative (harmful) outcome. Risk and uncertainty may be expressed either qualitatively or quantitatively. Some elements of uncertainty are described at section 234.6(g) regarding future conditions. The risks and uncertainties need to be disclosed for transparency and in plain language and made relevant to the comparison of alternatives. When available, such risks and uncertainties should be contextualized in a format more readily understandable by the public. The Corps would also work to identify whether improvements to existing data or models may lessen risks or uncertainties. In some instances, reducing risks and uncertainty may result in increased costs and the advantages of doing so in informing the decision-making should be weighed against those additional costs. When analyzing potential Federal water resource investments, areas of risk and uncertainty would be identified, described, quantified where possible, and considered as part of the decision. The first step to evaluate risk and uncertainty would be to identify the nature of the harmful outcomes and possible benefits. The second step would be to identify the likelihood of each harmful or beneficial outcome, either qualitatively or quantitatively. The third step would be to identify a



specific magnitude or range of magnitudes of each outcome and interpret the significance of each.

The Corps solicits comment on risk informed frameworks that can supplement or improve its current risk informed planning processes (see Planning Manual Part II: Risk-Informed Planning).<sup>43</sup> One approach that shows promise domestically (e.g., California Dept of Water Resources) and internationally<sup>44</sup> is Climate Risk Informed Decision Analysis (CRIDA). CRIDA concepts for scenario planning use bottom-up, vulnerability-driven approaches including stress tests and triggers to provide a framework to consider the full range of future risks (e.g., climate, population, land-use change) that matter to communities and decisionmakers and help develop robust long-term decisions for large-scale, multi-generational water resources investments. By collaborating with stakeholders to identify thresholds for system failure, CRIDA concepts can help identify and communicate risks and ensure that water resource solutions meet the needs of communities in the short and long term.

Section 234.7(e) Adaptive management. Adaptive management is defined under the proposed rule at 234.2(b). As cited in the PR&G, adaptive management is highlighted as a tool in the proposed rule to help reduce or manage within uncertainties. The proposed rule calls for adaptive management measures to be clearly identified and evaluated as part of the alternatives. It should be considered throughout the process and should be employed as soon as triggers are identified which necessitate such measures. Post-construction adaptive management to address unforeseen conditions or impacts of the project should also be included in Corps recommendations for project authorization.

Section 234.7(f) and (g) Climate change and Water availability, water use, and resilience. These proposed paragraphs require consideration of climate change, water availability, water use, and drought and flood resilience in all aspects of the planning process. This will involve the use of best available actionable science and the leveraging of local information on future climate change, including the associated uncertainty and likely impacts. This approach is consistent with the

<sup>43</sup> [https://planning.erdc.dren.mil/toolbox/library/Guidance/PlanningManualPartII\\_IWR2017R03.pdf](https://planning.erdc.dren.mil/toolbox/library/Guidance/PlanningManualPartII_IWR2017R03.pdf), last accessed January 31, 2024.

<sup>44</sup> <https://en.unesco.org/crida>, last accessed January 31, 2024.

ASA(CW) Climate Preparedness and Resilience Policy Statement and helps to ensure that the Corps does not have to react constantly to every new scientific report and update. By relying on actionable science rather than the latest available, the Corps avoids requiring the adoption of new procedures only to remove or modify them again shortly thereafter as scientific views emerge and evolve. See preamble section 234.6(c)(2) on Floodplains for further discussion on how the Corps considers climate change in the planning process. The discussion should include the interrelated nature of flood-related climate change, climate, drought, water, and ecosystem reliability, availability, and resilience. The evaluation should consider how these areas interrelate and how they would affect the net economic, environmental, and social benefits of the proposed water resources investment. Effects from climate change, including impacts on water availability, for example, have been noted as an environmental justice issue. Climate change, water availability, water use, and resilience also impact environmental factors, such as wetlands and river systems and the animal and plant species that they support. The evaluation should ensure these factors are considered for the current and future conditions assessment to identify water resource needs now and in the future across the alternatives, and how those alternatives may result in added resilience, when applicable to the project purpose.

Resilience should be considered under both the drought and flooding scenarios. The consideration of multiple uses and competing demands on water resources shall be taken into account when designing solutions to water resources problems. Water availability, water use, and resilience will be particularly important for projects that serve multiple purposes.

Section 234.7(h) Nonstructural and nature-based alternatives. This proposed paragraph further describes requirements to develop alternatives that use nonstructural measures to address the water resources problem. Nonstructural approaches are defined at section 234.2(l) of the proposed rule text. The Corps led a large, diverse collaboration that developed and published (2021) the International Guidelines on Natural and Nature-Based Features for Flood Risk Management.<sup>45</sup> In addition, a Report on nature-based solutions was recently issued to assist

<sup>45</sup> [https://ewn.erdc.dren.mil/?page\\_id=4351](https://ewn.erdc.dren.mil/?page_id=4351), last accessed January 31, 2024.

Federal agencies in moving ahead on implementing nature-based solutions to solve water resources challenges, where appropriate, titled “Opportunities to Accelerate Nature-based Solutions: A Roadmap for Climate Progress, Thriving Nature, Equity, & Prosperity.”<sup>46</sup> The proposed paragraph requires the consideration of natural systems, ecosystem process and nature-based approaches throughout alternatives development where they are feasible and consistent with the study purpose. A full nonstructural alternative and a full nature-based solutions alternative would also be included in the final array of alternatives. In some cases, these may be one and the same.

Section 234.7(i) Tribal treaty rights. This proposed paragraph provides that any alternatives for water resources investments must protect Tribal treaty rights. Each treaty is unique and must be analyzed to ensure any possible impacts, as well as benefits, to treaty rights are fully understood and accounted for in the alternative evaluations. The Corps would ensure consistency with the “Memorandum of Understanding Regarding Interagency Coordination and Collaboration for the Protection of Tribal Treaty Rights and Reserved Rights”<sup>47</sup> during the evaluation framework process. The Corps commits to enhancing interagency coordination and collaboration to protect Tribal treaty and reserved rights and to fully implement Federal government treaty obligations. If Tribal treaty rights preclude selection of an otherwise viable alternative, the Corps would disclose as such. The Corps also commits to following the “Best-Practices for Identifying and Protecting Tribal Treaty Rights, Reserved Rights, and Other Similar Rights in Federal Regulatory Actions and Federal Decision-Making”.<sup>48</sup>

Section 234.7(j) and (k) State water law and International obligations. These proposed paragraphs provide that the alternatives for Federal investments must ensure compliance with State water laws to the extent they do not conflict with Federal laws and regulations as well as treaty and other international obligations, and if any constraints within that compliance require an otherwise viable alternative

<sup>46</sup> <https://www.whitehouse.gov/wp-content/uploads/2022/11/Nature-Based-Solutions-Roadmap.pdf>, last accessed January 31, 2024.

<sup>47</sup> <https://www.doi.gov/sites/doi.gov/files/interagency-mou-protecting-tribal-treaty-and-reserved-rights-11-15-2021.pdf>, last accessed January 31, 2024.

<sup>48</sup> [https://www.bia.gov/sites/default/files/dup/inline-files/best\\_practices\\_guide.pdf](https://www.bia.gov/sites/default/files/dup/inline-files/best_practices_guide.pdf), last accessed January 31, 2024.

to not be carried forward then the Corps would disclose as such.

Section 234.7(l) Timing. This proposed paragraph provides in the regulation what is also discussed in section 234.6(g) regarding the period of analysis for review of alternatives. The time period selected would be documented with appropriate supporting information. The same timeframe would be used across all alternative evaluations. The Corps currently uses a 50-year timeframe for the period of analysis (see ER 1105–2–100<sup>49</sup> section 2–4j). Under the proposed regulation, a better approach may be for the Corps to consider a period of analysis sufficient to capture all important effects of each alternative. The Army solicits comment on whether there should be an upper limit established for the period of analysis. If an upper limit is established, the Army solicits comment on whether the Corps' current timeframe is the appropriate period of analysis for implementing the Corps' ASPs. Alternatively, should the timeframe be longer given that some benefits could accrue over timescales beyond 50 years. In addition, comment is sought on whether the period of analysis should be variable based on the Corps' mission and particular purpose and need of the proposed investment. The Corps recognizes the importance of consistency and comparability in evaluating alternatives and projects.

#### 234.8 Final Array of Alternatives.

This proposed paragraph of the ASPs outlines the final array of alternatives to address the problem that would be identified and subject to in-depth analysis and consideration. The proposed rule requires the Corps to include six types of alternatives in the final array: a no action or without-project condition alternative, a fully nonstructural alternative, a fully nature-based alternative, an environmentally preferred alternative, an alternative that maximizes net public benefits, and a locally-preferred alternative. A single alternative might satisfy more than one category (e.g., a nature-based alternative that is also the net benefit maximizing alternative and has broad support from local interests), and there may be cases where there are two alternatives in a category that need to be considered.

The no action alternative describes the conditions where no Federal investment is made by the Corps in a water resources development project. The fully nonstructural alternative is comprised only of nonstructural

approaches. This alternative must be considered feasible to be carried forward in the final array. There may be circumstances where a solely nonstructural approach alternative or fully nature-based alternative is not feasible due to technology or legal limitations, for example. The Corps would also consider nature-based solutions and non-structural approaches as components in the other alternatives. The environmentally preferred alternative generally provides the solution that maximizes environmental benefits. It causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources. The alternative that seeks to maximize net public benefits is also required to be included in the final array. This alternative is the plan that the Corps estimates would achieve the greatest net public benefits, based on its estimates of the costs and of the overall economic, environmental, and social benefits to society. The last alternative to be included is the alternative preferred by the non-federal interest, called the locally preferred alternative. All alternatives in the final array must be developed using a comparable level of rigor and detail. The non-federal interest is defined in the preamble at section 234.2(g) and as described, is the local interest envisioned by the PR&G for purposes of the Corps' implementation. The same alternative may be identified as one or more of these plans (e.g., the fully nonstructural alternative could also be the fully nature-based alternative, or the locally preferred alternative may be the same as the alternative that maximizes net public benefits). In addition, nonstructural measures and nature-based solutions should be considered as components of the other alternatives in the final array, essentially providing an integrated or "hybrid" of gray (hard) infrastructure with these other measures. The section also requires inclusion of any needed mitigation for unavoidable adverse effects in the alternative and analysis. The section also provides that if an alternative requires any changes in law, regulations, or policy, such changes must be clearly identified and explained. The last paragraph provides a summary of what the discussion of the final array of alternatives should include to describe the purpose, study area, impacts, as well as considerations described in the Guiding Principles and evaluation framework.

Section 234.9 Evaluate Effects of Alternatives.

Section 234.9(a) and (b) These sections of the proposed ASPs establish the general framework for the analysis of the effects of the final array of alternatives. The analysis must evaluate how an alternative's benefits compare to its costs, how they perform with respect to the PR&G's Guiding Principles, how they perform against the objectives of the study, and how they perform against the prescribed formulation criteria of completeness, effectiveness, efficiency, and acceptability. Therefore, the final array of alternatives will be assessed in a manner to best inform decision-making. The objectives of the study may be related or stem from the project's purpose and need but must be clear and focused so that they can be used to evaluate alternatives. The Army notes that there can be tension between a plan that is efficient versus one that is robust or resilient. Ensuring that both resilience and uncertainty are accounted for in any decision-making framework is important.

Section 234.9(c) Consideration of benefits and costs. This proposed paragraph establishes three categories to fully account for the costs and benefits of an alternative and its contributions to the Federal objective that are to be evaluated fully: economic, environmental, and social. This framework corresponds to the "triple bottom line" of sustainable economic development. Alternatively, Army is soliciting comment on whether to eliminate the three categories to simply account for all costs and benefits without further categorization which may make it easier to avoid double counting, noting though that certain costs and benefits may not be as visible if they are not specifically called out in a category. Distributional analyses, including an analysis of regional economic benefits, may be used to further compare alternatives in some cases (see Section 234.10). These three categories will facilitate the display of alternatives, tradeoffs, and support the identification of the alternative(s) that maximize net public benefits. These three categories encompass all significant effects of a plan on the human environment as required by NEPA (42 U.S.C. 4321 *et seq.*). They also encompass social well-being as required by Section 122 of the Flood Control Act of 1970 (Pub. L. 91–611, 84 Stat. 1823). The proposed paragraph reiterates that the costs and benefits should be quantified and monetized to the extent practicable using a scientifically valid and acceptable way. If qualitative applications are used, they must be of sufficient detail to ensure the decision-

<sup>49</sup> [https://www.publications.usace.army.mil/portals/76/publications/engineerregulations/er\\_1105-2-100.pdf](https://www.publications.usace.army.mil/portals/76/publications/engineerregulations/er_1105-2-100.pdf), last accessed January 31, 2024.

maker can make an informed decision understanding both the importance and magnitude of potential changes.

This proposed paragraph is the heart of the PR&G and displays the largest change in current Corps planning. Rather than primarily focusing on national economic development in the alternatives analysis, the proposed ASPs require all three categories to be considered fully. As previously stated, this is consistent with the PR&G (see preamble Section 234.4(c)). Some benefits may appear to fit in more than one category. If this occurs, the use of logic models, exploration with experts or other methods can help further specify benefits and parse them into their appropriate different categories, representing the full set of effects and avoiding double counting. For example, an alternative that restores riparian habitat may reduce erosion, improving in-stream habitat for aquatic species and improving navigability for shipping and recreational boating. The benefit to aquatic species should be captured as an environmental benefit, the effect on shipping should be captured as an economic benefit, and the effect on recreational boating should be captured as a social benefit. These are three distinct benefits and all should be included as relevant. Some social benefits can also be monetized, and when feasible should be. In those cases, they should count only once, as economic benefits. Qualitative information can be used to further contextualize their social relevance, but double counting should be avoided.

This proposed paragraph calls for the current dollar value costs along with non-monetized measures and description to be measured against the current dollar value and non-monetized measures and description benefits of each alternative and compared to the no action alternative. Future predicted cost and benefit value (monetized) estimates would be discounted to present value terms for the analysis. The evaluation of alternatives is part of the NEPA alternatives analysis, in which the No Action Alternative and Action Alternatives are described, evaluated, and compared. The Army solicits comment on whether the selection of discount rates, and consideration of declining discount rates should follow the guidance in OMB Circulars A-4 and A-94.

The proposed ASPs intentionally do not dictate specific evaluation tools, methods, or processes. These tools and methods would evolve over time and the Corps would commit to using the best available tools and methods appropriate for the analysis, so the

analysis does not get stale. In this manner, the Corps can be nimble in changing with the evolving science, knowledge, data, and methods, rather than promulgating a prescriptive method in regulatory text which may quickly be outdated. It is envisioned that internal agency guidance may be developed providing specific references for the Corps to employ in analysis, which can be updated more readily. This may include areas such as income weighting or the use of distributional analysis to inform a decision on a proposed investment that would primarily benefit a specific Tribal Nation or disadvantaged community. Such internal agency guidance would be posted for public transparency so the public understands which tools and methods the Corps may be applying. Recommendations for tools and methods are solicited through this proposed rule. In addition, as the Corps implements the ASPs, there may be lessons learned and best practices that also necessitate the Corps to be nimble with internal agency procedures regarding evaluation tools, methods, and processes to implement the ASPs. Due to regional variation in water resources and challenges, one common set of tools and methods may not be appropriate for nationwide use. The Corps would employ the most appropriate tools, methods and processes for different type of projects and problems.

This framework would include the analysis of costs and benefits using tools that have long estimated the effects of an alternative on the Corps' existing P&G's four accounts where still relevant and appropriate: National Economic Development, Regional Economic Development, Environmental Quality, and Other Social Effects. Some of the tools the Corps uses to calculate the four accounts now may still be relevant when determining economic, environmental, and social effects under the ASPs. The Corps would do an assessment to determine which existing tools may still be helpful, which may need modification, and where gaps exist for creation of new tools. The Corps would not be identifying the four accounts but rather focusing on economic, environmental and social effects as described in this proposed rule. Additional methods, tools and processes may be used and would likely be developed over time to better achieve a fuller accounting of benefits and costs. In general, the Corps will follow Circulars A-4 and A-94 for implementing a benefit-cost analysis. The Army also solicits comment on how

such analysis would best be conducted for projects affecting Tribal Nations, and whether the Corps should identify, characterize, and evaluate the benefits to the Tribal Nation separately, as opposed to including them in a broader assessment of the overall benefits of the proposed project and the alternatives to the U.S. Nation (including the affected Tribal Nations).

While the proposed ASPs do not prescribe the techniques to be used to quantify and monetize costs and benefits, the Corps' ASP analysis must include information to justify the use of any particular technique as the most appropriate given the circumstances. The justification of any analytical techniques used would include discussion on why the method is the most appropriate for the analysis, how it compares to other methods that could have been used (pros vs. cons), and what are the risks and uncertainties inherent in using that particular technique. The Corps' ASPs allows for the use of new analytical techniques and methodologies, as they become available and cost effective. Costs would include the costs of operations and maintenance.

The PR&G does not direct the Corps to develop ASPs that require the selection of a particular alternative investment, but rather to evaluate a range of alternatives. When evaluating these alternatives, the Corps would keep in mind a number of key aspects, including: economic, environmental, and social impacts are interrelated; not all impacts can be monetized, and impacts described qualitatively should be given full consideration; and, there could be more than one alternative that reasonably and approximately meets the Federal objectives and maximizes the public benefits relative to costs.

Section 234.10 Compare Alternatives.

Section 234.10(a) Comparing alternatives. This proposed ASP section calls for plans to be compared with each other and the baseline. The alternatives would include a description of the adaptability and resilience of alternatives to climate change and other risks. The plan (or plans) that reasonably maximizes net public benefits would be identified to be included in the final array of alternatives. The proposed ASPs explicitly call for robust engagement to provide meaningful participation and input from Tribal Nations and stakeholders as they may have different perspectives, values, considerations, and information on potential effects to inform tradeoffs between alternatives. See section 234.6(d) in the preamble for

discussion on collaboration and engagement. Army recognizes that different preferences will exist and understanding these perspectives helps the Corps deliver sound investment advice.

The Corps solicits comment on how it could compare alternatives and develop a recommendation. Are there multi-objective decision frameworks or approaches that may have successfully been used in other contexts or purposes that may assist? How can the rule best ensure that the Corps will be comparing the options and developing its project proposals objectively and consistently with a national perspective?

For example, a multi-criteria decision analysis (MCDA) could be employed and the Army solicits comment on when MCDA would be appropriate for the application within a PR&G analysis. Another approach that could be followed is structured decision making (SDM).

In addition, in certain instances the Corps has employed decision frameworks such as using resilience as a guiding strategy under the City Resilience Framework<sup>50</sup> for the Coastal Texas study. The framework presents a broad, multi-dimensional perspective on the integrated conditions that support resilience within a community. The framework highlights four dimensions of resilience: Health & Wellbeing; Economy & Society; Infrastructure & Environment; and Leadership & Strategy. The Army solicits comment on whether the City Resilience Framework align with the PR&G Guiding Principles and could be employed in a decision framework under the proposed ASPs.

In another example of a decision framework employed by the Corps for the Brandon Road project, system performance robustness was used as a criterion to evaluate alternative plan robustness in addressing current and future threats of invasive carp migrating from the Mississippi River into Great Lakes basins. Robustness considered the (1) ability to cycle in nonstructural measures, (2) ability to cycle in structural measures, (3) number of structural control points within the study area, and (4) number of modes of transport the alternative controls. Factors were assessed in a robustness tool that also considered cost effectiveness analysis as a component of plan selection.

The Corps also collaborated with the State of Louisiana and researchers from

RAND to develop a proof-of-concept application of Robust Decision-making (RDM) methods to support coastal storm risk management and ecosystem restoration multi-purpose planning for the Louisiana Coastal Protection and Restoration study. Although limited, the proof-of-concept illustrated how RDM may be an appropriate method in some cases to derive scenarios for planning and communicating risk and uncertainty to decisionmakers and stakeholders at the national, regional, state, and local levels. The process initially lacked a framework for integrating planning with the relevant uncertainties inherent to the problem. The method was later expanded to employ a risk-based tool to assess a full range of economic and non-economic assets at risk against various structural and nonstructural risk reduction measures. Information from this risk-based tool helped to inform decisionmakers and the public on the risks, costs, and consequences of a full range of potential flood risk reduction, coastal restoration, and hurricane and storm damage reduction measures.

In another example for the Sutter Basin Pilot Study, the Corps employed a study process that relied on sound professional engineering, economics, and environmental judgment and analyses, and focused the amount and type of data collected and analysis on the risk and consequences of the decisions being made. Costs and benefit estimates used for the initial steps of the planning process were based on an appropriate level of detail for screening of draft alternatives to a final array of alternatives. For the study, the appropriate level of detail was selected using comparative cost estimates, rather than absolute cost estimates. The range of confidence in cost and benefit estimates was presented in the comparison of alternatives; however, only mean estimates were presented in the study. More detailed cost estimates were prepared for the evaluation of the final array of alternatives leading to the identification of the recommended plan. In that study, the Corps found that no single factor provided the basis for the Corps decision for a recommendation for Federal investment. Alternative comparison and selection suggested that there was no single “best” plan, and that there may be a variety of approaches (quantitative and qualitative) to decision-making using multiple criteria.

The Army solicits comments on the various frameworks and methods listed above as well as other alternative frameworks that may be employed in the ASPs decision-making process when

facing a multi-dimensional problem with complex tradeoffs between monetary and non-monetary outputs and quantitative and qualitative data, which would support objective analysis and sound decision-making.

Section 234.10(b) Tradeoffs. Tradeoffs are anticipated and expected for the implementation of the ASPs regarding the potential alternatives. Tradeoffs are assessed from the perspective of the specific circumstances of each study, including the study area, resources, impacted populations, and study authority, to form the basis for deciding which plan best addresses the Federal Objective and Guiding Principles. The Army solicits comment on whether the Corps should pursue a more straightforward approach, using maximizing the net benefits as a primary metric for use in comparing the alternatives and evaluating the tradeoffs, and to clarify the decision framework.

The tradeoffs would be described throughout the decision-making process to ensure an informed decision. They should describe the effectiveness of the alternatives in solving the water resources problems, the tradeoffs in monetary and nonmonetary terms of what must be given up to enjoy the benefits of the alternatives in relation to the baseline, and the differences among the alternatives. These factors will ensure the tradeoffs are fully described, contemplated, and understood for decision-making. Consideration should be given for whether some effects measured are more relevant than others, and whether others are more incidental in nature which should be noted and separated. The Corps would note effects that are irreversible or that have high end-of-lifecycle costs to reverse (including decommissioning costs). Different project elements may be justified on different types of public benefits, which should be described. Tradeoffs may be identified on the basis of both quantifiable and unquantifiable terms. In addition, each separable project element’s goals and objectives should be identified to provide a rationale for inclusion or exclusion from the alternative.

Tradeoffs among potential alternatives and their anticipated effects may require professional judgment when a computationally driven “best” answer is not clear. Tradeoffs must be understandable and transparent, and the analysis should be conducted in a consistent manner across alternatives. The level of detail in assessing separable components and the associated description of the specific tradeoffs among the goals and objectives of the

<sup>50</sup> <https://www.rockefellerfoundation.org/report/city-resilience-framework/>, last accessed January 31, 2024.

investment decision should be sufficient to inform the decisions to be made and to provide transparency to the decision-making process. The frameworks discussion provided earlier in the preamble at 234.10(a) may also be helpful in evaluating these tradeoffs.

Section 234.10(c) Information for inclusion in the analysis. This proposed paragraph outlines various information and tables that will promote consistency and transparency in comparisons across different studies. The information is also consistent with other Federal agency approaches in their ASPs so it can also provide consistency across the Federal government. Information must highlight how alternatives achieve the four evaluation criteria of completeness, effectiveness, efficiency, and acceptability. The information must include the content from the Guiding Principles and the evaluation framework described in Sections 234.6(c) and 234.7.

Various tables that describe resource/ecosystem tradeoffs would also be required, including changes in each affected resource. This matrix would summarize the tradeoffs, relative to the baseline, resource-by-resource. The matrix would include information on the financial elements of an alternative. For example, if the alternative involves repayment by non-Federal entities or other financial considerations are required, then the table would display the magnitude of the annual payments as well as the present value of the payments over the period of analysis.

The matrix would generally be constructed using an ecosystem service framework but would also ensure inclusion of economic, environmental, and social effects that are relevant but may be difficult to include in an ecosystem services framework. The matrix would generally include estimates of the annualized and total changes in the quantity and/or quality of each effect, relative to the No Action alternative, over the period of analysis. The metrics used to evaluate changes in services and display tradeoffs would be clearly defined. Estimates of changes to relevant benefit indicators relative to the No Action alternative may be used. In addition, a quantitative measure of affected ecosystem services, even if not monetary, that goes beyond biophysical measures to address relevant social welfare would be included. Changes in estimated benefits would be quantified and monetized to the greatest extent feasible. The monetized costs and benefits of the project benefits would generally be presented on an annual basis over the period of analysis as well as in present value terms. The major

structural and nonstructural features of the recommended plan, any special considerations for implementation, and the estimated cost of implementation would also be provided in the analysis. The monetized costs relative to the baseline would be quantified and presented on an annual basis as well as in present value terms. Estimates of the annual changes in effects including those on the relevant ecosystem services, relevant time periods over which the changes are anticipated to occur would be included, as well as the level of certainty associated with each estimate. Non-monetized quantitative and qualitative measures and description of changes in costs and benefits would also be included along with the monetized values of the project and presented on an annual basis where feasible. While use of an ecosystem services decision matrix provides a useful construct, it should not be constraining if there are economic, environmental, or social effects that need to be included but would not be considered ecosystem services.

Additional tradeoff displays should show any other relevant important information. A summary table would display the present value of costs and benefits, and another table would indicate the extent to which the alternatives achieve the Guiding Principles. The summary table would include all benefit estimates, regardless of the technique used to estimate them. To the extent feasible, all cost and benefit estimates should be accompanied by either quantitative or qualitative estimates or descriptions of the certainty of the estimate. Qualitative information is considered with quantitative information. The summary table should include entries for any benefits and costs that are not monetized and briefly provide a rationale for why they were not monetized. The text of the analysis must include a more in-depth discussion of these issues. The achievement of the objectives table information may be qualitative in nature and each of the Guiding Principles must be addressed individually.

The Corps would use the most readily available, scientifically acceptable, and best available data and information, to include Indigenous Knowledge as described in previous sections of this preamble for assessing tradeoffs. However, the Army solicits comment on the tools, methods, and processes for assessing the tradeoffs to best elicit preferences resulting in the most informed recommendations in a consistent manner, although regional variation is expected by the nature of

water resources and their challenges having great variation across the Nation. The Army would also consider tools and techniques to assess perceived risk in the description and assessment of tradeoffs, which can provide additional information regarding community concerns and needs.

The IG provided that common displays that are used across agencies enhance transparency and clarity about the decision-making process and encouraged agencies to collaborate to develop these common displays. The displays discussed above are described in the Department of Interior's ASPs to help ensure a more common display for use by Federal agencies.

Section 234.10(d) Risk and uncertainty. This section also requires a description of areas of risk and uncertainty with sufficient detail so that decisions can be made with knowledge of the degree of reliability and the limits of available information, recognizing that even with the best available engineering and science, risk and uncertainty will always remain.

The economic analyses need to reflect the uncertainty inherent in the data or various assumptions as to future economic, demographic, environmental, and technological trends. The environmental analyses also should account for the uncertainties. Various projections and assumptions of reasonable alternative forecasts, if realized, should be analyzed to determine if they would appreciably affect estimated results. From the vantage point of one who is deciding whether to propose or make a particular investment, the risk and uncertainty in the outcome tend to increase over time. The risk and uncertainty include the extent to which the underlying assumptions that drive the predicted benefits and costs may overstate or understate the actual benefits and costs. To address this concern (at least in part), the Corps may include an estimate of the return on investment under current conditions both in its flood and coastal storm risk management project studies, and in its commercial navigation studies. The Army solicits comment on this approach. This could show the extent to which the estimated benefits assume a change in current conditions in the future:

- For flood and storm damage reduction studies, this analysis may help communities and decision makers understand the extent to which the Corps estimates that the current flood risk is likely to increase due to climate change and how quickly that risk may change.

• For commercial navigation studies, this analysis may enable decision makers to understand the extent to which the Corps could (or could not) justify the proposed navigation investment under current conditions. This analysis could help in establishing priorities for investment, and would underscore the extent to which a study relies on an assumed sustained long-term growth in future traffic.

Section 234.11 Select the Recommended Plan.

Section 234.11(a) Recommended plan. The final part of the proposed ASP's planning section describes how to recommend a decision to either: (1) implement an alternative project or program; or (2) take no Federal action. Federal investments would seek to achieve the Federal objective and maximize net public benefits, as measured by the economic, environmental, and social costs and benefits to the Nation. The Corps would clearly identify the alternative that achieves the water resources objectives and reasonably maximizes the public benefits to the Nation relative to costs. In addition, this proposed rule makes clear that more than one alternative in the final array may meet these conditions; for example, the non-federal interest locally preferred alternative may equate to the alternative which meets objectives and maximizes net public benefits. Decisions or recommendations involving Federal investments affecting water resources would be made through a dynamic process, both iterative and progressive. The process should be responsive to significant changes in information, conditions, and/or objectives. These can occur at any point in the process and, depending on the potential consequences of the changes, may dictate that previous decision points, assumptions, and forecasts be reviewed in light of these changes.

Plan selection requires decision-makers to assess tradeoffs and to consider the extent of both monetized and non-monetized effects. The plan selection must disclose the criteria and considerations used to be transparent to the public in how the recommended plan was selected. In addition, the summary of Tribal and stakeholder engagement and their reflections on the various alternatives should be included in the plan selection.

The selected plan recommendation would provide a complete discussion of the tradeoffs involved in making a decision regarding the proposed Federal investment; a discussion of how economic, environmental, and social benefits (monetized, quantified and

described) justify the costs (monetized, quantified and described); and adequately attain the goals outlined in the Guiding Principles, recognizing how tradeoffs between the various goals affect the level of attainment within each Guiding Principle. If the basis for plan selection depends on non-monetized benefits or costs, the report would describe the benefit-cost analysis conducted for the alternative being selected which would include an explanation of the relative importance of these benefits/costs and why they are not monetized.

Through this process, the PR&G helps the Federal government improve decision-making by accounting for long-term costs and benefits; developing investments to withstand or adapt to climate change; creating better, more resilient communities; and avoiding conflicts and project delays by including local input.

Section 234.11(b) Exceptions. The proposed rule allows for exceptions for the recommended plan to maximize net public benefits; however, such exceptions must be approved by ASA(CW). This proposed policy underscores the importance of the PR&G approach to put forth the recommended plan that maximizes net public benefits.

#### **D. Expected Benefits and Costs of Proposed Rule**

Overall, this proposed rule provides greater flexibility to the Federal government and non-Federal interests to consider a wider range of benefits, improve the effectiveness of Federal and local investments in Civil Works projects, and provide water resource projects that better serve communities and the public. Informed by more detailed understanding of various risks, Federal, state, local and Tribal governments are able to apply available resources to the activities that are most likely to produce public benefits. A full accounting of benefit and costs will result in projects that increase public benefits. An increased focus on collaboration throughout the planning process ensures projects benefit from local knowledge, improves Federal decision-making, and promotes transparency and responsiveness. A focus on environmental justice ensures that Federal government resources benefit disadvantaged communities, including many communities that are overburdened by pollution and marginalized by underinvestment. The Corps has 11 covered programs<sup>51</sup> under

<sup>51</sup> See <https://www.whitehouse.gov/wp-content/uploads/2023/11/Justice40-Initiative-Covered->

the Justice40 Initiative<sup>52</sup> which would apply the ASPs as described in this proposed rule. Use of an ecosystem services approach allows the planning process to better anticipate and account for the effects of a Federal investment.

As the Corps starts implementing this new approach, evaluation and decision-making methods tools and processes will need to be developed, resulting in increased costs in time and effort to all parties. More resources will likely be directed to the evaluation of social, environmental, and non-traditional economic benefits and costs; engagement with other governmental and non-governmental partners; and assessing and communicating risks and uncertainties to the public (see Preamble discussion at section 234.7(d)). Civil Works planning is committed to ensuring development of an adequate study scope and documentation and establishing a realistic schedule and budget early in the study process and ensuring adequate leveraging of data, models, methods and information from Tribal, State, local, and non-governmental resources to assist in development.

This proposed rule will mostly affect the Investigations appropriations account of the Corps, which the Congress uses to provide funding for feasibility studies for potential new Civil Works projects, major rehabilitation studies, and general re-evaluation and review studies. The ASPs will also affect the Continuing Authorities program funded out of the Construction appropriations account, and Section 216 and reallocation studies funded out of the Operations and Maintenance appropriations account. We anticipate the costs to the Federal government to implement the proposed rule to remain roughly the same as under the current planning process as the ASPs change only the process to select the recommended project alternative rather than Congressional appropriation process. The estimated value added to these projects as a result of the application of the ASPs would exceed any estimated added costs. The change to the Corps' internal process results in a shift in focus from strictly an economic evaluation to one evaluating economic, environmental, and social considerations. This would require additional tools and methods as described in the proposed rule preamble which are existing or in development or

*Programs-List\_v2.0\_11.23\_FINAL.pdf*, last accessed January 31, 2024.

<sup>52</sup> See <https://www.whitehouse.gov/environmentaljustice/justice40/>, last accessed January 31, 2024.

would evolve as science and analytical studies improve over time. The Corps uses tools and methods for the current approach and it would be a matter of adding tools and methods to the current approach to include social and environmental considerations. This new process will require additional trainings and development of tools and methods not currently available which may result in some minor additional costs to the Corps but those initial costs would be outweighed by long-term benefits of the Corps' implementation of the ASPs and efficiencies gained by the use of new tools and methods. The costs to the public would be the same as under the current planning process. The Corps' planning process and Civil Works programs and projects which fall under the proposed ASPs are not mandatory or obligatory requirements on the public but rather are initiated and voluntarily entered into by the non-federal interest and the Corps pursuant to congressional authorization. See the Corps' Regulatory Impact Analysis for further discussion on the benefits and costs of the proposed rule.

#### E. Procedural Requirements

*a. Executive Order 12866: Regulatory Planning and Review; Executive Order 13563: Improving Regulation and Regulatory Review.* Executive Order 12866 (58 FR 51735, October 4, 1993), as amended by Executive Order 14094 (88 FR 21879, April 11, 2023), defines a "significant regulatory action" as one that is likely to result in a rule that may:

(1) have an annual effect on the economy of \$200 million or more (adjusted every 3 years by the Administrator of the Office of Information and Regulatory Affairs for changes in gross domestic product); or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, territorial, or tribal governments or communities;

(2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) raise legal or policy issues for which centralized review would meaningfully further the President's priorities or the principles set forth in this Executive order, as specifically authorized in a timely manner by the Administrator of OIRA in each case.

This proposed rule has been found to be a significant regulatory action and has therefore been submitted to the

Office of Management and Budget (OMB) for review.

This rule establishing the Corps' ASPs to implement the PR&G does not by itself impose costs or benefits. Potential costs and benefits would only be incurred as a result of actions taken under existing Corps programs relying on these procedures. The Corps does not initiate any actions that may be undertaken under the proposed rule on their own but rather in response to engagements by a non-Federal interest or at Congressional direction. See Section D of the Preamble for a discussion on expected costs and benefits of the proposed rule. Primarily, these costs would be incurred by the Corps and the non-Federal interest. Benefits would be incurred by the communities and ecosystems where the Corps projects occur. See the Corps' Regulatory Impact Analysis for further discussion on costs and benefits of the proposed rule.

*b. Review under the National Environmental Policy Act.* As required by the National Environmental Policy Act (NEPA), the Department of Army prepares appropriate environmental analysis for its activities affecting the quality of the human environment. The Corps has preliminarily determined that this proposed regulation, if finalized, would not significantly affect the quality of the human environment. The rule establishes the procedure the Corps will consider in evaluating investments in projects, programs, and plans. The Corps will conduct an action-specific NEPA analysis before undertaking any activities that could potentially affect the quality of the human environment and will integrate the NEPA process with the procedure laid out in this rule. A. The draft Environmental Assessment to support this preliminary determination is available at <http://www.regulations.gov> for public comment. The preliminary determination that an Environmental Impact Statement (EIS) will not be required for the promulgation of the regulation will be reviewed in consideration of the comments received.

*c. Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4).* The Unfunded Mandates Reform Act does not apply to this proposed rule because this rule provides policy for Corps planning processes authorized through congressional action. The Corps has also found, under section 203 of the Act, that small governments, as defined under the Regulatory Flexibility Act analysis, will not be significantly and uniquely affected by this rulemaking. Although small governments may be non-Federal interests for a Corps project and

therefore be involved in the proposed ASPs, there are other forms of non-Federal interests and other entities engaged in the process so small governments are not uniquely affected. The action imposes no enforceable duty on any Tribal, state, or local governments, or the private sector.

*d. Paperwork Reduction Act (PRA) of 1995 (44 U.S.C. 3501 et seq.).* This proposed rule does not impose any information collection requirements for which OMB approval under the PRA is required. However, this action may change terms and concepts used by the Corps to implement certain programs. The Corps does not believe any of their existing information collection instruments would need revision at this time.

*e. Executive Order 13132: Federalism.* This rule will not have substantial direct effects on the states, the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

The Army did engage in early outreach with state and local governments, or their representative national organizations, prior to proposing this regulation as a matter of policy (see 87 FR 33756, Notice of Virtual Public and Tribal Meetings Regarding the Modernization of Army Civil Works Policy Priorities; Establishment of a Public Docket; Request for Input). Twelve intergovernmental organizations attended the early engagement virtual sessions to provide oral comments or provided written comments to the docket, as well as three associations representing state and local governments. Their comments included support for moving to a fuller consideration of project benefits than just economics and on robust collaboration with state and locals including use of local and regional information in the planning process. The ASPs reflect these themes. The Army will continue to engage with state and local governments during the public comment period through virtual meetings.

*f. Regulatory Flexibility Act.* The Regulatory Flexibility Act (RFA), as amended (5 U.S.C. 601 et seq.) generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice-and-comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities

include small businesses, small organizations, and small governmental jurisdictions. For purposes of assessing the impacts of the proposed rule on small entities, a small entity is defined as: (1) A small business based on the Small Business Administration size standards; (2) a small governmental jurisdiction that is a government of a city, county, town, school district, or special district with a population of less than 50,000; and (3) a small not-for-profit enterprise that is independently owned and operated and is not dominant in its field.

This rule does not “subject” any entities of any size to any specific regulatory burden. The scope and content of the proposed rule is informed by the PR&G and would not be readily informed by an RFA analysis. *See, e.g., Cement Kiln Recycling Coal v. EPA*, 255 F.3d 869 (D.C. Cir. 2001) (“[T]o require an agency to assess the impact on all of the nation’s small businesses possibly affected by a rule would be to convert every rulemaking process into a massive exercise in economic modeling, an approach we have already rejected.”); *Michigan v. EPA*, 213 F.3d 663, 688–89 (D.C. Cir. 2000) (holding that the RFA imposes “no obligation to conduct a small entity impact analysis of effects” on entities which it regulates only “indirectly”); *Am. Trucking Ass’n v. EPA*, 175 F.3d 1027, 1045 (D.C. Cir. 1999) (“[A]n agency may justify its certification under the RFA upon the “factual basis” that the rule does not directly regulate any small entities.”); *Mid-Tex Elec. Co-op, Inc. v. FERC*, 773 F.2d 327, 343 (D.C. Cir. 1985) (“Congress did not intend to require that every agency consider every indirect effect that any regulation might have on small businesses in any stratum of the national economy.”).

Under the RFA, the impact of concern is any significant adverse economic impact on small entities, because the primary purpose of the initial regulatory flexibility analysis is to identify and address regulatory alternatives “which minimize any significant economic impact of the proposed rule on small entities.” 5 U.S.C. 603. In this case, the Army certifies that this proposed regulation does not have a significant effect on a substantial number of small entities. The proposed regulation merely provides ASPs for the Corps’ planning processes implementing the PR&G. Although small entities might benefit from such Corps water resources development projects—just as large entities and private individuals might—the agency procedures under the proposed regulation does not place any burden on small entities nor does it

entail direct involvement by such entities except for those that may be non-federal interests for Corps projects. Nevertheless, the Army recognizes that the Corps’ implementation of the PR&G may be of great national interest, including within the small business and small entity community. The Army commits to meeting with small entities during the public comment period to hear their thoughts on the proposed rule.

*h. Executive Order 13175, Consultation and Coordination with Indian Tribal Governments.* Under Executive Order 13175, the Federal government may not issue a regulation that has substantial, direct effects on one or more Tribal Nation, on the relationship between the Federal government and Tribal Nation, or on the distribution of powers and responsibilities between the Federal government and Tribal Nations. The Executive Order also states the Federal government may not issue a regulation that imposes substantial direct compliance costs on those communities, and that is not required by statute, unless the Federal government provides the funds necessary to pay the direct compliance cost incurred by the Tribal Nation governments, or we consult with those governments. If complying by consulting, Executive Order 13175 requires agencies to provide the Office of Management and Budget, in a separately identified section of the preamble to the rule, a description of the extent of prior consultation with representatives of affected Tribal Nation governments, a summary of the nature of Tribal Nation concerns, and a statement supporting the need to issue the regulation. In addition, Executive Order 13175 requires that agencies develop an effective process permitting elected officials and other representatives of Tribal Nation governments an opportunity to provide timely input in the development of regulatory policies on matters that significantly or uniquely affect their communities.

This proposed regulation does not impose significant compliance costs on any Tribal Nation or otherwise have substantial direct effects on the same. The regulation merely provides agency procedures specific to the Corps to implement the PR&G. Whether the Corps initiates a water resources development project for Federal investment depends on if it is authorized by Congress. The Army believes that the regulation itself does not directly result in a substantial, direct effect on the relationship between the Army and Tribal Nations but does

recognize that implementation of the ASPs at a project, program, or plan level may result in improved engagement and collaboration, and appropriate solutions to water resources problems in partnership with Tribal Nations. The Army initiatives to comply with the Executive Order includes: (1) initiating government-to-government consultation on the **Federal Register** notice to Modernize Civil Works (87 FR 33756) to permit meaningful, early, and robust engagement in development of this proposed rule; (2) conducting a virtual meeting on this effort with Tribal Nations held on July 21, 2022; (3) responding to all requests for one-on-one consultation and meeting with three Tribal Nations at a leader-to-leader level and one Tribal Nation at a staff-level. All letters received by the Army as part of Tribal consultation may be found in the docket for the Modernize Civil Works effort ([www.regulations.gov](http://www.regulations.gov) at Docket ID No. COE–2022–0006).

The Army has also initiated government-to-government consultation on this proposed rule action through a specific Dear Tribal Leaders letter sent to Tribal leaders. Tribal Nations may also submit written comments to the docket for this proposed rule. In addition, the Corps would engage in government-to-government consultation on a specific Federal action per the existing USACE Tribal Consultation Policy. The Corps’ provision of water resources development projects and services does not affect the distribution of power or responsibilities between the Federal government and Tribal Nations. This proposed rule will neither impose substantial direct compliance costs on federally recognized Tribal governments, nor preempt Tribal law.

*i. Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks.* The Army interprets Executive Order 13045 as applying only to those regulatory actions that concern environmental health or safety risks that the agencies have reason to believe may disproportionately affect children, per the definition of “covered regulatory action” in section 2–202 of the Executive Order. This action is not subject to Executive Order 13045 because it does not concern an environmental health risk or safety risk.

*j. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use.* This action is not a “significant energy action” because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy.



*k. National Technology Transfer and Advancement Act.* This rulemaking does not involve technical standards, and as such, does not trigger requirements under the National Technology Transfer and Advancement Act.

*l. Executive Order 14096: Revitalizing Our Nation's Commitment to Environmental Justice for All; Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.* The Army believes that this action does not have disproportionate and adverse human health or environmental effects on communities with environmental justice concerns, as specified in Executive Order 14096 (88 FR 80 (Apr. 26, 2023); see also Executive Order 12898 (59 FR 7629, February 16, 1994)).

The Army recognizes that the burdens of environmental pollution and climate change often fall disproportionately on communities with environmental justice concerns. Climate change will exacerbate the existing risks faced by communities with environmental justice concerns. The proposed ASPs further the goals of E.O. 14096 by incorporating environmental justice and social goals into the Corps' planning processes, in addition to environmental and economic goals, as opposed to solely relying on economic justification.

For this rule, consistent with Executive Order 12898 and Executive Order 14096, the Army considered whether the change in benefits due to this rule may be differentially distributed among communities with environmental justice concerns in the affected areas when compared to both baselines. This proposed rule action establishes a process for Corps identification of a final array of alternatives for water resources development project investments and to inform the recommended plan. The proposed rule would not directly result or contribute to benefits to any particular communities as such projects must be congressionally authorized and appropriated. However, the consideration of social, environmental, and economic goals out of necessity incorporates environmental justice considerations into those alternatives and recommendation as the final recommendation must be the one that maximizes net public benefits. The impacts of the changes to the Corps processes proposed in this rule would be beneficial to communities with environmental justice concerns because it ensures environmental justice considerations are brought forth and considered in the Corps' processes.

### List of Subjects in 33 CFR Part 234

Administrative practice and procedure, Intergovernmental relations, Technical assistance, Water resources.

Approved by:

**Michael L. Connor,**

*Assistant Secretary of the Army (Civil Works).*

■ Accordingly, the Corps proposes to add part 234 to title 33 of the Code of Federal Regulations as follows:

### PART 234—CORPS OF ENGINEERS AGENCY SPECIFIC PROCEDURES TO IMPLEMENT THE PRINCIPLES, REQUIREMENTS AND GUIDELINES FOR FEDERAL INVESTMENTS IN WATER RESOURCES

Sec.

- 234.1 General.
- 234.2 Definitions.
- 234.3 Exceptions.
- 234.4 Objectives and applicability.
- 234.5 Level of analysis.
- 234.6 The planning process.
- 234.7 Evaluation framework.
- 234.8 Final array of alternatives.
- 234.9 Evaluate effects of alternatives.
- 234.10 Compare alternatives.
- 234.11 Select the recommended plan.

**Authority:** 33 U.S.C. 701n.

#### § 234.1 General.

(a) This part prescribes the Agency Specific Procedures (ASPs) for the United States Army Corps of Engineers (Corps) to execute its Civil Works mission, in accordance with the Water Resources Principles and Guidelines defined in Section 2031 of the Water Resources and Development Act (WRDA) of 2007 (Pub. L. 110–114; 42 U.S.C. 1962–3), the Principles, Requirements and Guidelines (PR&G) issued by the Water Resources Council,<sup>53</sup> and as called for in Section 110 of WRDA 2020 (Division AA of Pub. L. 116–260).

(b) Section 2031 of the WRDA of 2007 (Pub. L. 110–114) directed the Secretary of the Army to revise the March 10, 1983, Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies<sup>54</sup> (P&G) for Corps use and to address the following considerations: advancements in economic and analytic techniques; public safety; low-income communities; nonstructural approaches; interaction with other water resources projects and programs; integrated and adaptive management; and, use of

<sup>53</sup> <https://obamawhitehouse.archives.gov/administration/eop/ceq/initiatives/PandG>, last accessed January 31, 2024.

<sup>54</sup> [https://planning.ercd.dren.mil/toolbox/library/Guidance/Principles\\_Guidelines.pdf](https://planning.ercd.dren.mil/toolbox/library/Guidance/Principles_Guidelines.pdf), last accessed January 31, 2024.

public benefits to justify projects. The WRDA provision also provided that the Federal Objective is to reflect national priorities, encourage economic development, and protect the environment by seeking to maximize sustainable economic development, avoid the unwise use of floodplains, and protect and restore natural ecosystems.

(c) The PR&G was issued as an interagency effort to modernize the P&G. The PR&G is comprised of the Principles and Requirements (P&R)<sup>55</sup> issued in March 2013 and the Interagency Guidelines (IG)<sup>56</sup> issued in December 2014. The PR&G emphasizes that water resources projects should strive to meet the Federal Objective and maximize public benefits relative to public costs. The PR&G is designed to support water infrastructure projects with the greatest public benefits (economic, environmental, and social benefits) relative to costs.

(d) Congress directed the Secretary of the Army to issue ASPs to implement the PR&G in Section 110 of WRDA 2020 (Division AA of Pub. L. 116–260).

#### § 234.2 Definitions.

(a) *Acceptability.* The viability and appropriateness of an alternative from the perspective of the Nation's general public and consistency with existing Federal laws, authorities, and public policies. It does not include local or regional preferences for solutions or political expediency.

(b) *Adaptive management.* A deliberate, iterative, and scientific based process of designing, implementing, monitoring, and adjusting an action, measure, or project to address changing circumstances and outcomes, reduce uncertainty, and maximize one or more goals over time.

(c) *Completeness.* The extent to which an alternative provides and accounts for all features, investments, and/or other actions necessary to realize the planned effects, including any necessary actions by others. It does not necessarily mean that alternative actions need to be large in scope or scale.

(d) *Effectiveness.* The extent to which an alternative alleviates the specified problems and achieves the specified opportunities.

(e) *Efficiency.* The extent to which an alternative alleviates the specified problems and realizes the specified opportunities at the least cost.

<sup>55</sup> [https://obamawhitehouse.archives.gov/sites/default/files/final\\_principles\\_and\\_requirements\\_march\\_2013.pdf](https://obamawhitehouse.archives.gov/sites/default/files/final_principles_and_requirements_march_2013.pdf), last accessed January 31, 2024.

<sup>56</sup> [https://obamawhitehouse.archives.gov/sites/default/files/docs/prg\\_interagency\\_guidelines\\_12\\_2014.pdf](https://obamawhitehouse.archives.gov/sites/default/files/docs/prg_interagency_guidelines_12_2014.pdf), last accessed January 31, 2024.

(f) *Federal investment.* Investments made by the Corps related to water resources development projects, including flood and storm risk management, ecosystem restoration, land management activities, navigation, recreation, and hydropower.

(g) *Federal objective.* The fundamental goal of Federal investments in water resources. Federal water resources investments shall reflect national priorities, encourage economic development, and protect the environment. Federal investments should strive to maximize net public benefits.

(h) *Indigenous Knowledge.* A body of observations, oral and written knowledge, innovations, practices, and beliefs developed by Tribes and Indigenous Peoples through interaction and experience with the environment. It is applied to phenomena across biological, physical, social, cultural, and spiritual systems. Indigenous Knowledge can be developed over millennia, continues to develop, and includes understanding based on evidence acquired through direct contact with the environment and long-term experiences, as well as extensive observations, lessons, and skills passed from generation to generation.

(i) *Nature-based alternatives.* An alternative comprised of actions to protect, sustainably manage, or restore natural or modified ecosystems to address societal challenges, while simultaneously providing benefits for people and the environment.

(j) *Non-federal interest.* (1) a legally constituted public body (including an Indian tribe and a tribal organization (as those terms are defined in section 5304 of title 25); or (2) a nonprofit entity with the consent of the affected local government, that has full authority and capability to perform the terms of its agreement and to pay damages, if necessary, in the event of failure to perform.

(k) *Nonstructural alternative.* An alternative comprised of a nonstructural approach or combination of nonstructural approaches that addresses the water resources problem.

(l) *Nonstructural approach.* An approach that alters the use of existing infrastructure or human activities to generally avoid or minimize adverse changes to existing hydrologic, geomorphic, and ecological processes. This may include measures such as certain forms of nature-based solutions; modified floodplain practices; policy modifications; vessel speed limits; traffic management and tidal navigation restrictions; the reoperation of dams and reservoirs to restore or better mimic

natural hydrology and flow patterns; invasive plant removal; signage to limit public access at an aquatic ecosystem restoration site; setbacks; elevations; relocation; and buyout/acquisition including the acquisition of flowage easements; dry flood proofing and wet flood proofing; providing flood insurance; establishing building codes for new construction; other local floodplain management practices; installing early warning systems; and developing emergency evacuation plans.

(m) *Public benefits.* Encompasses economic, environmental, and social impacts, and includes those that can be quantified in monetary terms, as well as those that can be quantified or described qualitatively.

(n) *Regulatory.* Generally, those activities subject to legal restrictions promulgated by the Federal government.

(o) *Resilience.* The capacity of an ecosystem or community to respond to changes, including climate changes.

(p) *Sustainable.* The creation and maintenance of conditions under which humans and nature can coexist in the present and into future.

(q) *Tribal Nation (Federally recognized Indian tribe or Tribal organization).* An Indian or Alaska Native tribe, band, nation, pueblo, village, or community that the Secretary of the Interior acknowledges to exist as an Indian tribe pursuant to the Federally Recognized Indian Tribe List Act of 1994, 25 U.S.C. 5130.

(r) *Unwise use of floodplains.* Any action or change that diminishes public health and safety, or an action that is incompatible with or adversely impacts one or more floodplain functions that leads to a floodplain that is no longer self-sustaining or degrades ecosystem services.

(s) *Watershed.* A land area that drains to a common waterbody.

#### **§ 234.3 Exceptions.**

Exceptions to any requirements or policy contained in this part may be requested by the Corps or the non-Federal interest or responsible Tribal, State, or local government. Exceptions must be requested in writing and will be reviewed for a decision by the Assistant Secretary of the Army for Civil Works.

#### **§ 234.4 Objectives and applicability.**

(a) *Introduction.* The goal of Department of the Army's ASPs is to ensure that Army Civil Works consistently applies a common framework for analyzing a diverse range of water resources development projects, programs, activities, and related actions involving Federal investments. The ASPs will advance

transparency and consistency of the Corps' Federal investments in water resources. The intention of the ASPs is to outline the steps to apply the PR&G to Corps water resource investments, including a determination of the applicability of PR&G in the context of the Corps' missions and authorities, to provide a common framework for evaluation of investment alternatives, and to ensure that the Corps adequately addresses the Guiding Principles identified in P&R.

(b) *Objectives for Federal water resources investments.* Section 2031 of WRDA 2007 (Pub. L. 110–114; 42 U.S.C. 1962–3) specifies that Federal water resources investments shall reflect national priorities, encourage economic development, and protect the environment. The Corps shall accomplish this Federal objective of water resources planning policy by:

(1) seeking to maximize sustainable economic development;

(2) seeking to avoid the unwise use of floodplains and flood-prone areas and minimizing adverse impacts and vulnerabilities in any case in which a floodplain or flood-prone area must be used; and,

(3) protecting and restoring the functions of natural systems and mitigating any unavoidable damage to natural systems.

(c) *Net public benefits.* The Corps shall strive to maximize net public benefits to society. Public benefits encompass economic, environmental, and social goals, include monetized and un-monetized effects, and allow for the consideration of both quantified and unquantified effects. The Corps shall take a comprehensive view in evaluating net public benefits.

(d) *Applicability.*

(1) The objectives in paragraph (b) of this section shall be embodied in all new Army Civil Works' water resources investments, which include both structural and nonstructural approaches to water resources problems. The PR&G analysis under the Corps' ASPs described in this regulation is generally required for feasibility studies, General Re-evaluation reports, Major Rehabilitation reports, Continuing Authorities Programs, significant changes to operations through re-allocation studies or Section 216 of the Flood Control Act of 1970 (Pub. L. 91–611), and any other project or program not otherwise excluded under paragraph (2) of this paragraph.

(2) Excluded activities. The PR&G is not intended to apply to all Federal actions. The following types of Federal investments are identified as excluded from the requirements of this regulation:

- (i) Regulatory actions, such as the issuance of permits associated with Section 404 of the Clean Water Act (33 U.S.C. 1344).
- (ii) Real estate actions.
- (iii) Planning Assistance to States program.
- (iv) Flood Plain Management Services program.
- (v) Section 14 of Rivers and Harbors Act of 1899 (33 U.S.C. 408) program.
- (vi) Public Law 84–99 program.
- (vii) Water Infrastructure Finance and Innovation Act Program.
- (viii) Environmental Infrastructure projects.
- (ix) Land management plans.
- (x) Operations and maintenance activities that are carried out in a manner consistent with the existing approved operations and maintenance manual or plan for an authorized project. This does not include significantly changed O&M plans or those changed to meet new goals which may require a new analysis under this regulation and potentially authorization.
- (xi) International and Interagency Support and Support for Others actions.
- (xii) Research or monitoring activities.
- (xiii) Emergency actions.
- (xiv) Projects, programs, or plans that meet the threshold criteria for exclusion or that fall below the thresholds identified in Table 1. These excluded actions generally occur when investments are routine and have inconsequential effects on water resources.
- (xv) Additional programs, plans, or projects which the Assistant Secretary of the Army for Civil Works has determined do not require analysis pursuant to section 3 of this regulation.

**§ 234.5 Level of analysis.**

(a) *Standard and scaled levels of analysis.* Once a determination has been made that PR&G does apply, the level of

analysis shall be determined. The level of PR&G analysis required will vary in scope and magnitude across programs and activities. There are two levels of analysis: “standard” and “scaled”. In general, the level of analysis should be commensurate with the significance of the Federal investment in terms of dollar value and the potential environmental impacts. While there is not a clear distinction between the different levels of analysis, the two types of analysis can generally be distinguished in several ways:

(1) A standard analysis seeks to evaluate all the relevant benefits and costs associated with the project or activity using original or secondary data. This type of analysis is typically used for new or significantly modified actions. The Corps would conduct a benefit-cost analysis of programs and activities that have some effect on the environment. For projects/activities that fall into the category of “standard analysis,” the analysis should make significantly greater efforts to quantify and monetize impacts. The extent to which effects can and should be monetized should be made on a resource-by-resource basis and considering the estimated present value cost of the project/activity and the significance of the effects.

(2) A scaled analysis is an analysis that is more limited in scope for projects, programs, or plans that have low risk/low cost, or have minimal consequences of failure, posing minimal threats to human life or safety, or do not result in significant impacts to the environment. A scaled analysis may rely on benefits function transfer methods and readily available secondary data sources. Benefits function transfer methods are used to estimate monetary values by transferring available information about relationships from studies already completed to another

location, context, or issue. Best practices would be applied when using this approach to avoid common pitfalls.

(b) *Determining the appropriate level of analysis.* In many cases, professional judgment and available resources will be important factors in determining the appropriate level of analysis. The Corps will ensure that cumulative effects of many small, routine actions would not in itself elevate those investments to a scaled or standard analysis. Many of those small, routine actions would be excluded from PR&G analysis.

(c) *Scope and magnitude of analysis required.* The threshold criteria for project, programmatic, and individual plan level analysis for Army Civil Works is shown in Table 1. These thresholds represent guidelines for the level of analysis that is likely to be most appropriate for an activity, given the level of investment in, appropriations for, or cost of that activity. In determining whether a given activity or project falls under or exceeds the financial thresholds, it is the level of present value of Federal investment that is the relevant criterion to use. However, for a particular activity, a different level of analysis may be more appropriate, and projects/programs may depart from these guidelines where such a departure is justified. In general, a scoping effort should be undertaken to evaluate the level of effort needed to analyze the full range of potential effects. Project-level analysis should generally be used for water resources investments when the Corps has discretion in site-specific investment decisions. A programmatic-level analysis generally has a broader scale and/or scope than a project-level analysis. Programmatic-level analysis generally relates to funding programs or where a proposal for a set of similar actions analyzed under one decision document may occur.

TABLE 1<sup>57</sup>—MONETARY THRESHOLD CRITERIA<sup>58</sup>

Type of activity	Federal investment (\$M)	Annual appropriations or plan development costs (\$M)	Level of analysis
<i>Projects:</i> All new or existing Federal investments, such as infrastructure, ecosystem restoration, new construction, modifications or replacements to existing facilities, and operations and maintenance <sup>59</sup> .	>20	.....	Standard analysis.
	10–20	.....	Scaled analysis.
	<10	.....	Excluded.
<i>Programs</i> .....	.....	>100	Standard analysis.
.....	.....	50–100	Scaled analysis.

<sup>57</sup> The Corps may choose to analyze the effects of a federal investment at a higher level of detail than called for by Table 1. For example, if the Corps considers an investment to be high risk, it could undertake a scaled analysis for that investment

which might otherwise be excluded from the PR&G analysis.

<sup>58</sup> The financial threshold amounts will be indexed to inflation to stay relevant.

<sup>59</sup> Operations and Maintenance (O&M) activities that are included in the original project

authorizations do not require separate analysis if the activity is carried out in a manner that is consistent with that authorization. Significantly changed O&M plans or those changed to meet new goals may require a new analysis and potentially authorization.

TABLE 1<sup>57</sup>—MONETARY THRESHOLD CRITERIA<sup>58</sup>—Continued

Type of activity	Federal investment (\$M)	Annual appropriations or plan development costs (\$M)	Level of analysis
<i>Individual Plans:</i> Management plans, such as watershed, master, etc .....	.....	<50	Excluded.
	.....	>50	Standard analysis.
	.....	10–50	Scaled analysis.
	.....	<10	Excluded.

**§ 234.6 The planning process.**

(a) *Introduction.* The following planning process will be used to implement the common framework summarized in the Interagency Guidelines for analyzing Federal investments in applicable water resources.<sup>60</sup> The planning process will ensure that plan formulation, evaluation, and implementation of agency projects and programs reflect the Guiding Principles identified in the P&R: healthy and resilient ecosystems, sustainable economic development, floodplains, public safety, environmental justice, and a watershed approach. The planning process consists of a series of steps that identifies or responds to problems and opportunities, as well as specific Tribal, state, and local concerns, and, in most cases, culminates in a recommended plan. The process involves an orderly and systematic approach to making determinations and decisions at each step so that the interested public and decision-makers in the planning organization can be fully aware of the following: the basic assumptions employed; the data and information analyzed; the areas of risk and uncertainty; the reasons and rationales used; and the significant implications of each alternative. The planning process is iterative to adapt to new information and understanding. The result of the planning process is investment advice. The advice may be a recommended plan or plans that seek to maximize net public benefits in addressing the identified water resources problem and a description of the analysis of the benefits and costs of that and other potential plans.

(b) *National Environmental Policy Act.* Where Federal investments in water resources require analysis under NEPA and this regulation, Army Civil Works should integrate, to the extent possible, the analysis in this regulation into existing planning processes, and

may integrate this regulation and NEPA analyses in a single analytical document that reflects both processes. Army Civil Works shall seek opportunities to integrate other required Federal and state environmental reviews with their combined analyses.

(c) *Guiding principles.* The Guiding Principles provide the overarching concepts that the Corps seeks to promote through investments in water resources.

(1) *Environmental justice.* Environmental justice refers to the just treatment and meaningful involvement of all people regardless of income, race, color, national origin, Tribal affiliation, or disability, in agency decision-making and other Federal activities that affect human health and the environment so that people:

(i) are fully protected from disproportionate and adverse human health and environmental effects (including risks) and hazards, including those related to climate change, the cumulative impacts of environmental and other burdens, and the legacy of racism or other structural or systemic barriers; and

(ii) have equitable access to a healthy, sustainable, and resilient environment in which to live, play, work, learn, grow, worship, and engage in cultural and subsistence practices.

Environmental justice shall be considered throughout the Civil Works program and in all phases of project planning and decision-making. Army Civil Works projects and programs shall advance equity by meeting the needs of communities, such as by reducing disparate environmental burdens, removing barriers to participation in decision-making, and increasing access to benefits provided by Civil Works programs, including for disadvantaged communities. The planning process shall put these communities at the front and center of studies, providing robust opportunities for effective participation in the planning and decision-making processes. Any disproportionate adverse public safety, human health, or environmental burdens of project

alternatives on communities with environmental justice concerns shall be avoided, minimized, or mitigated to the greatest extent reasonable. The Corps shall ensure that communities with environmental justice concerns have meaningful opportunities to identify potential alternatives, effects and mitigation measures. The Corps shall also be transparent in fully displaying the potential effects of alternative actions on communities with environmental justice concerns.

(2) *Floodplains.* All future Federal investments in and affecting floodplains must meet some level of floodplain resilience. Alternatives affecting floodplains should aim to improve floodplain resilience if possible and also should avoid the unwise use of floodplains and/or flood-prone areas. If the areas cannot be avoided, then the alternative must minimize adverse impacts to these areas and mitigate unavoidable impacts using nature-based approaches where possible. The Corps shall identify and communicate potential adverse effects on floodplain functions for the various alternatives under consideration. Where the Corps proposes to construct a project feature in a floodplain because that is the best way to serve a public purpose such as flood risk reduction, that proposed Corps project is not automatically considered an unwise use of the floodplains. The Corps shall strive to sustain the floodplains natural and beneficial functions to the maximum extent practicable given the project's purpose and need.

(3) *Healthy and resilient ecosystems.* Alternatives shall protect the existing functions of ecosystems and may restore the health of damaged ecosystems to a less degraded and more natural state where feasible, and in accordance with current study and cost sharing authorities. When adverse environmental impacts cannot be completely avoided, alternatives shall strive to minimize environmental impacts. When a particular alternative will cause unavoidable damage to the environment, mitigation to offset

<sup>60</sup> <https://obamawhitehouse.archives.gov/administration/eop/ceq/initiatives/PandG>, last accessed January 31, 2024.

damages shall be incorporated into that alternative and evaluated as part of that alternative. In developing alternatives, consideration shall be given to ecosystem resilience, including acknowledging the value of ecosystem services to people. When evaluating alternatives, the health of the affected ecosystem shall be measured in its current condition as the baseline and projected under the alternatives being considered, including the No Action alternative.

(4) *Public safety.* Alternative solutions shall strive to avoid, reduce, or mitigate significant risks to public safety, including both loss of life and injury, and shall include measures to manage and communicate the residual risks. The impact and reliability of alternatives on significant risks to public safety must be evaluated for both existing and future conditions, considered in decision-making, and documented.

(5) *Sustainable economic development.* The Corps' investments in water resources shall encourage sustainable economic development. This is accomplished through the sustainable use and management of water resources ensuring overall water resources resilience. Sustainable economic development creates and maintains conditions under which humans and nature can coexist. Analysis under sustainable economic development shall present, where feasible, information about the environmental resources in the project area or the area where activities are occurring, and how the resources and their value might be expected to change over time. Physical capital information may also be included where relevant. Analysis shall also include information on socio-economic conditions under current and projected conditions. Economic, social, and environmental effects and benefits shall be incorporated into the analysis of alternatives.

(6) *Watershed approach.* When developing alternatives, the water resources problem being addressed should be analyzed on a watershed-based level to facilitate inclusion of a complete range of solutions, after considering the breadth of impacts across the watershed. A key aspect of the watershed approach is the analysis of information regarding watershed conditions and needs, allowing for consideration of upstream and downstream conditions and needs, consideration of other projects and actions in place, underway or planned by other agencies within the watershed, and more thoroughly addressing the

potential impacts of a proposed action. The scale of the watershed used to develop alternatives can vary. The appropriately sized watershed for the particular need being addressed shall be a case-specific determination based on the relevant facts and circumstances. The watershed scale used to develop alternatives should encompass a geographical area large enough to ensure plans address cause and effect relationships among affected resources and activities, both upstream and downstream and cumulative in nature that are important to gaining public benefits or avoiding harms from the project. The watershed approach ensures that the interconnectedness of systems is evaluated to fully understand the root causes and symptoms of the water resources problem and the full range of potential public benefits. Communication with other agencies or Tribal, territorial, state and local government partners working in the watershed starting in the scoping phase could help realize a watershed approach. In addition, other potential investments in the watershed shall also be accounted for under the watershed approach.

(d) *Collaboration.*

(1) The planning process will seek to achieve full collaboration with a wide range of affected Tribes, governmental and non-governmental stakeholders, communities with environmental justice concerns, and the public in all stages of the planning process. Collaboration with Tribes, governmental and non-governmental stakeholders, communities with environmental justice concerns and the general public throughout the planning process allows consideration of multiple perspectives and information sources (*e.g.*, Indigenous Knowledge) and shall be emphasized throughout the planning process. Collaboration with Tribes, communities, and local and state governments is a critical element to help identify specific problems, opportunities, and significant constraints within the study area, and help establish planning goals and objectives that are consistent with the objectives of this regulation and are locally appropriate. Starting at the earliest phase in the planning process, Tribes and other communities with environmental justice concerns shall have an opportunity to play a key role in identifying alternatives, enhancing the positive benefits to their communities from potential Federal investment and in describing any concerns they may have with a potential project. Such early, meaningful, and robust engagement will help identify

and address problems and possible solutions and scope studies. Robust, early collaboration with Tribes does not negate the need for Tribal consultation, when appropriate.

(2) To improve federal decision-making and to promote transparency, Army Civil Works shall seek to meaningfully collaborate with other Federal and non-Federal entities. Engagement methods and scope of engagement will depend on the stage of the planning process, the issues, and the groups that will be contributing ideas and information to the planning process and shall be intentionally designed using best practices and techniques for engagement. Engagement strategies shall consider Corps, Tribal, and community resource constraints. Indigenous Knowledge, information from Tribal Nations, local and state governments, non-governmental organizations and the public shall be incorporated into problem definition and forecasting of future conditions as well as the development and analysis of alternatives. Robust engagement and transparency throughout the planning process, including during the evaluation and comparison of alternatives, will help deliver sound investment advice for water resources solutions that maximize net public benefits.

(e) *Investigations and data collection.* Investigations, data collection, and analysis should be ongoing and integrated early in the planning process. Investigations should be relevant to the planning objectives and constraints. The interdisciplinary study team should identify the most important areas to focus on in the study, such as: engineering and design; surface water and groundwater hydrology; hydraulics; geology; operations; water quality; land resources; power generation and conservation; economics; financing; environmental, social, and cultural impacts and mitigation; opportunities for recreation; cost estimation for construction, operation, maintenance, replacement, energy consumption; and, climate change to include greenhouse gas emissions. Investigation, data collection and analysis should leverage and incorporate information from Tribal, state, local, and non-governmental sources, and the public. Additional investigations should be performed as necessary.

(f) *Identify purpose, problems, needs, and opportunities.* To identify purpose, problems, needs, and opportunities, the Corps shall:

(1) Ensure that the planning goals and objectives reflect the direction provided in the study authority.

(2) Clearly identify the purpose of the study, the role of the Federal government, as well as the views of the non-Federal interest (if any), cooperating agencies, Tribes, various stakeholders, and the public.

(3) Identify the problems and opportunities to which the agency is responding.

(4) Define the study area including activities within the watershed that are relevant to the proposed project, and areas where impacts should be avoided.

(5) Describe the plans for stakeholder involvement.

(6) Prepare a summary of the planning objectives and constraints to be used in the analysis of the federal investment. This summary should include a discussion of stakeholder, partner, and public input.

(6) Include a discussion of the social and cultural context of the region and resources.

(g) *Inventories existing resources and forecast future conditions.* A summary of the specific economic, environmental, and social setting within the study area shall cover the condition and functional relationships of affected resources; their development potential and possible conflicts in producing affected ecosystem services; and the local situation with respect to investment, climate, markets, affected communities, and basic economic productivity.

(1) “Forecast Future Conditions” generally relates to the identification of impacts associated with the alternatives, including the No Action Alternative. Future conditions should be assessed and analyzed as part of the evaluation process and the best available data and forecast should be used to complete an analysis of these uncertain conditions.

(2) This exercise of identifying existing resources and forecasting future conditions will quantify, to the extent practicable, relevant water and related resource conditions as they currently exist within the study area and forecast future conditions over the period of analysis. This would also include resources and conditions regarding the economic, environmental, and social aspects within the study area, as well as ecosystem services and climate-related scenarios. The existing resources and future conditions will be established using generally accepted sources that are national, state, or regional in scope, such as from peer-reviewed sources or sources which are government-produced.

(3) The “without-project condition” is the most likely condition expected to exist in the future over the period of analysis in the absence of the Corps

project, or program under consideration, given current laws, policies, projects under construction, and any existing resources/conditions. It considers expected actions that may be executed by others, including potential future land use conditions, and shall consider effects of climate change using multiple scenario analyses.

(4) The “with-project condition” is the most likely condition expected to exist in the future, over the period of analysis, with a specific Corps project or program in place. It considers expected actions that may be executed by others, including potential future land use conditions, and shall consider effects of climate change using multiple scenario analyses.

(5) To ensure that the appropriate criteria and problems are incorporated into the analytical framework, a summary of the process used to define the relevant existing conditions and foreseeable future conditions shall be prepared and made available to the public and shared with stakeholders.

(h) *Formulate alternatives.* The primary goal of an alternative is to meet the objective of the project to solve the water resources challenge as authorized, consistent with the Federal objective and Guiding Principles. The primary function of an alternative must be to alleviate unsatisfactory conditions or address a problem or opportunity that exists or will exist in the future without the programs or projects under consideration. Alternatives shall address the defined water resources challenge or function that is the subject of the analysis, and achieve multiple objectives as outlined in the P&R.

Alternative formulations should focus on solutions that are feasible and meet the planning objectives. Alternatives should be formulated to meet planning objectives based on most likely future conditions expected with and without implementation of an alternative. The viability of an alternative should be determined through an evaluation of its acceptability, efficiency, effectiveness, and completeness, as required in the PR&G. The period of analysis should be the same for each alternative and sufficient to encompass the lifespan and significant long-term impacts of the project. In addition, alternatives may also include actions which are beyond the missions of the Corps where they provide solutions to the identified problem and meet the goals of the PR&G. However, such alternative shall identify the relevant parties with requisite responsibility for those actions beyond Corps missions (such as other Federal agencies and non-Federal partners), their authority for that action,

the interrelation between that action and the recommended Corps project, and appropriate sequencing of implementation. For Corps investments, the Corps will be the designated lead for completing PR&G analysis.

(1) Alternatives are to be developed in a systematic manner. A range of potential alternatives should be initially investigated reflecting a range of scales and measures, and as alternatives are refined, some would be screened out for reasons such as having excessive cost or unavoidable impacts, not sufficiently addressing the identified problem or opportunity, or other factors. The study report should include some analysis of the eliminated alternatives, and reasons for their elimination. The plans that are retained for additional analysis should determine the range of reasonable alternatives, as required for the NEPA analysis. Section 234.8 describes the alternatives required in the final array.

(2) Consideration of nonstructural approaches and nature-based solutions that meet the planning objectives shall be an integral part in the development and evaluation of Federal investments in water resources.

(3) Each alternative formulated for the PR&G analysis should be included in the NEPA document.

(4) The economic, environmental, and social effects of a water resources development project are interrelated. In formulating alternatives to address the identified water resources problem or opportunity, the Corps shall consider each of these effects and maximize net public benefits.

#### **§ 234.7 Evaluation framework.**

(a) This section describes the common framework and general requirements to be used by the Corps in evaluating potential alternatives for Federal investments for their performance with respect to the Guiding Principles and their contributions to the Federal Objective to inform the overall decision-making process. Any assumptions made which are used in the analysis of alternatives shall be described in the analysis where applicable.

(b) *Economic, environmental, and social effects.*

(1) The Corps’ analytical framework for evaluating Federal investments should focus on the key economic, environmental, and social effects that are relevant to the investment decision. Typical NEPA analyses emphasize environmental effects and benefits, including ecosystem services, and these should also be used as a core part of water resources alternatives analysis. A benefit-cost analysis would be conducted for each alternative.

Ecosystem services are an important benefit-cost category that should be included in the benefit-cost analysis.

In addition, the scale of an analysis can be adjusted to meet the needs of an individual project. While all analyses should share common elements, how these elements are achieved can depend on the needs of the project. For example, while it is important to estimate how values vary across alternatives, many different metrics and methods can be used; the best approach will depend on the needs and scale of the project.

When implementing its ASPs, the Corps will consider and, where it deems appropriate, align with the latest Federal methods and guidance (for example, updated OMB Circulars and applicable interagency guidance) to ensure that the analytical framework accounts for all significant economic, environmental and social costs and benefits, including ecosystem services. Where possible, monetization enables the incorporation of the values placed on the benefits and costs evaluated, and provides a way to evaluate trade-offs in common analytical units (dollars). OMB Circulars A-4 and A-94 provide guidance on appropriate use of monetization methods. The Corps anticipates that it will not be possible to monetize all social and environmental costs and benefits of project alternatives. In these cases, the Corps should quantify the social and environmental costs and benefits and when neither monetization or quantification is possible, the Corps should qualitatively describe the social and environmental costs and benefits in sufficient detail to allow differentiation across alternatives. The relevant monetary, quantitative, and descriptive information will be considered fully in the analysis.

(c) *Best available actionable science and commensurate level of detail.*

(1) Analysis to support the evaluation of alternatives shall use the best available actionable science, to include Indigenous Knowledge, data, analytical techniques, procedures, models, and tools in ecology, hydrology, economics, engineering, biology, and other disciplines to the extent that sufficient funding is available and to the extent such information is relevant and appropriate to the subject investment. To the extent feasible, the effects of the alternatives should be monetized. Effects will be monetized, quantified or described, in that order.

(2) The level of detail required to support alternative analyses may vary but should be sufficient to inform the decision-making process efficiently and effectively. The level of detail, scope,

and complexity of analyses should be commensurate with the scale, impacts, costs, scientific complexities, uncertainties, risk, and other aspects (e.g., public concern) inherent in potential decisions.

(d) *Risk and uncertainty.* When analyzing potential Federal water resource investments, the Corps shall identify, describe, and quantify (if feasible), areas of risk and uncertainty and consider them in decision making. Risks and uncertainties shall be identified and described in a manner that is clear and understandable to the public and decision-makers. This includes describing the nature, likelihood, and magnitude of risks, as well as the uncertainties associated with key supporting data, projections, and evaluations of competing alternatives. When there are considerable uncertainties concerning the ability of an alternative to function as desired (e.g., produce desired outputs and/or the general acceptability of the alternative) the option of pursuing improved data or models should be considered. Reducing risk and uncertainty may involve increased costs or loss of benefits. The advantages and costs of reducing risk and uncertainty should be explicitly considered in formulating alternatives and the overall decision-making process.

(e) *Adaptive management.* Adaptive management measures shall be clearly identified and evaluated as part of alternatives to the extent that such measures are commensurate with the significance of the proposed activity and available resources. Adaptive management measures are particularly useful when making management choices in the face of uncertainty, such as when detailed information and tools are not readily available.

(f) *Climate change.* Conditions resulting from a changing climate shall be identified and accounted for in all stages of the planning process; uncertainties associated with climate change will be identified and described. Analysis of climate change impacts shall reflect best available actionable science and will leverage region-specific information from federal, Tribal, state, local, and non-governmental partners. The Corps shall incorporate a climate-informed science approach considering impacts such as inland and coastal climate change impacts on flood and drought hazards using the most up-to-date science, policies, and tools available. The Corps shall also ensure climate resilience and adaptation is incorporated and considered throughout the planning process and across alternatives, including a discussion on

how climate, drought, and ecosystem resilience may intersect for that particular action and can contribute to the economic vitality and water resources resilience of the Nation. The changing climate should inform the understanding of water resource needs and how those needs can potentially be addressed.

(g) *Water availability, water use, and resilience.* Water availability and efficient use of water shall be considered in alternative designs, as shall resilience, when applicable to the project purpose. The analysis shall consider water availability, water use, and resilience over a range of conditions, from too little in drought and multiple use scenarios to too much in flood scenarios. The consideration of multiple uses and competing demands on water resources shall be taken into account when designing solutions to water resources problems.

(h) *Nonstructural and nature-based solutions.* Nonstructural measures alter the use of existing infrastructure or human activities to generally improve or avoid or minimize adverse changes to existing hydrologic, geomorphic, and ecological processes. Nonstructural measures may be combined with fewer or smaller traditional structural project components to produce a complete alternative plan or may be used instead of a structural project. In the development of alternatives, the use of natural systems, ecosystem processes, and nature-based solutions shall be considered, where feasible and consistent with the purpose of the water resources study. Full consideration and reporting on nonstructural and nature-based alternative actions shall be an integral part of the evaluation of Federal water resource investment alternatives, and a full nonstructural in addition to a full nature-based alternative will be included in the final array of alternatives. Nonstructural and nature-based aspects should also be included in the other alternatives in the final array when appropriate.

(i) *Tribal treaty rights.* Alternatives for water resources investments must be consistent with protection of Tribal treaty rights. Analyses should identify Tribal treaty rights that preclude selection of an otherwise viable alternative.

(j) *State water law.* Alternatives for water resources investments must be consistent with State water laws, water rights, and decrees to the extent these do not conflict with federal laws and regulations. Analyses should identify legal constraints that preclude selection of an otherwise viable alternative.

(k) *International obligations.*

Alternatives for water resources investments must be consistent with meeting treaty and other international obligations. Analyses should identify international obligations that preclude selection of an otherwise viable alternative.

(l) *Timing.* The period of analysis for alternatives shall be documented clearly and with the appropriate justification in the analysis and used to evaluate each alternative.

**§ 234.8. Final Array of Alternatives.**

(a) The final array of alternatives shall include, at a minimum, the following six alternatives:

- (1) A no action alternative.
- (2) A nonstructural alternative: An alternative, if one exists, that can effectively address the problem through the feasible use of nonstructural approaches.
- (3) A nature-based solution alternative: An alternative, if one exists, that can effectively address the problem through the feasible use of nature-based solutions (including natural systems and ecosystem processes).
- (4) An environmentally preferred alternative.
- (5) An alternative that seeks to maximize net public benefits.
- (6) An alternative that is locally preferred. If this alternative differs from the net public benefits alternative, it will be required to have a comparable level of detail and analyzed using the same analytical framework as the net public benefits alternative.

(b) The nonstructural and nature-based alternatives do not preclude consideration of these elements in other alternatives. Nonstructural measures and nature-based solutions shall be considered as components of the other alternatives in the final array, essentially providing an integrated or “hybrid” of gray (hard) infrastructure with these other measures.

(c) The same alternative may be identified as more than one of these required alternatives.

(d) Mitigation of unavoidable adverse effects associated with each alternative must be included in the alternative and in the analyses.

(e) If an alternative requires changes in existing laws, regulations, or policies, those changes must be clearly identified and explained.

(f) The discussion of the final array of alternatives should include the primary purpose of the analysis; the geographic size of the study area; the types of impacts; number of people potentially affected and anticipated degree of impact; environmental justice

considerations; and the size and location of communities potentially affected including the presence of Federally-recognized Tribes or Tribal members; and the type of data and information available from Indigenous Knowledge, collaboration, public involvement, and previous studies.

**§ 234.9. Evaluate Effects of Alternatives.**

(a) *Analysis of alternatives.* For the final array of alternatives, the analysis should describe, evaluate, and estimate the key social, environmental and economic effects, and assess the contributions of each alternative to the Guiding Principles.

(b) *Evaluation procedures.* In addition to assessing how alternatives perform with respect to the Guiding Principles, the evaluation procedures shall incorporate methods to evaluate:

- (1) How public benefits of an alternative compare to its costs, including all important social, environmental and economic benefits and costs.
- (2) How alternatives perform against the objectives of the study.
- (3) How alternatives perform against the four formulation criteria: completeness, effectiveness, efficiency, and acceptability.

(c) *Consideration of benefits and costs.* The report should fully account for the effects to society of alternative plans and their respective contributions to the Federal Objective, relative to the No Action alternative. The analysis will evaluate the economic benefits and costs, environmental benefits and costs, and social benefits and costs of alternatives, regardless of how they are included (monetized, quantified or described). To the extent practicable, such costs and benefits must be quantified in a scientifically valid and acceptable way, and such quantified costs shall be monetized where practicable.<sup>61</sup> When monetization or quantification is not possible, costs and benefits must be described in sufficient detail to enable the decision-maker to understand the importance and magnitude of potential changes. For monetized costs and benefits, the present value cost of each alternative must be compared to the present value of the benefit to the public for monetized costs and benefits. For quantified but not monetized benefits and costs, the Corps would present the information on an average annual basis, and would also describe how the benefits and costs would accrue over the period of analysis. For qualitatively

described benefits and costs, expectations would be described across the period of analysis. The effects of alternative plans are displayed in terms of costs and benefits.

**§ 234.10. Compare Alternatives.**

(a) *Comparing alternatives.*

Alternatives shall be compared to each other and to the No Action alternative and shall include a comparison of the ability of the alternatives to perform under changing conditions, including climate change. The alternative (or alternatives) that reasonably meets the Federal objective and maximizes net public benefits shall be identified. In addition, alternatives may be evaluated with respect to other considerations, including distributional effects, separately. These considerations may include:

- (1) Temporal. Certain effects may occur at different points in time.
- (2) Spatial. Certain costs, benefits, and transfers may accrue to different regions. Regional-scale analyses may be useful to inform regional level economic development objectives.

(3) Beneficiaries. Tribal Nations and stakeholders (including other governmental agencies and communities with environmental justice concerns) may indicate different tradeoffs among the various benefits and costs of a federal action. Robust engagement at this stage shall focus on eliciting preferences among the alternatives, their component elements, and their effects. When calculating net benefits, these distributional effects can be examined using techniques like income weighting.

(b) *Tradeoffs.* Tradeoffs among potential alternatives will be assessed and described throughout the decision-making process and in a manner that informs decision-making. Based on the available analytical information, the Corps would use its professional judgment in making its recommendations on decisions among tradeoffs. The tradeoff displays shall be understandable, transparent, and constructed in a generally consistent fashion for all analyses. The analysis shall include a combination of both tables and explanatory materials to help inform a decision. Displays shall facilitate the evaluation and comparison of alternatives necessary to make the following determination and reflect the following:

- (1) The effectiveness of alternatives in solving the water resources problem and taking advantage of the opportunities identified in the planning process.
- (2) What must be given up in monetary and nonmonetary terms to

<sup>61</sup> The Corps shall, in part, use Office of Management and Budget Circulars A-4 and A-94.



enjoy the benefits of the various alternatives, relative to the baseline.

(3) The differences among alternatives.

(c) *Information for inclusion in the analysis.* To promote consistency across the Corps, the following tables and information shall be included in the analysis and in the documentation prepared for a decision process:

(1) *Criteria.* The analysis must explicitly address the extent to which an alternative achieves each of the following criteria: completeness, effectiveness, efficiency, and acceptability. This evaluation must be systematic and can include both quantitative and qualitative components.

(2) *Effects matrix.* A matrix summarizing the tradeoffs, relative to the baseline, effect-by-effect must be included in the integrated report.

(3) *Additional trade-off displays.* Additional text and tables should display other important trade-offs, *e.g.*, trade-offs along temporal, spatial, and beneficiary dimensions.

(4) *Summary table.* A summary table displaying the economic, environmental, and social costs and benefits as measured (monetized, quantified, quantitative) for each alternative. In addition, the summary table will display the economic, environmental, and social costs and benefits which were derived qualitatively. The summary table will also separately include information on

level of risk or uncertainty for each alternative.

(5) *Achievement of objectives table.* A table indicating the extent to which the Guiding Principles have been achieved.

(d) *Risk and uncertainty.* Knowledge of risk and uncertainty and the degree of reliability of the estimated consequences will better inform decision making. Risk and uncertainty are inherent in economic analyses as well as the analysis of physical and biological factors, no matter the technique or methodology employed. Areas of risk and uncertainty will be described clearly, so that decisions can be made with knowledge of the degree of reliability of the estimated consequences and of the effectiveness of alternatives.

#### **§ 234.11. Select the Recommended Plan.**

(a) *Recommended plan.*

(1) Plan selection will require decision-makers to assess tradeoffs and to consider the extent of both monetized and non-monetized effects. The basis for selection of the recommended plan should be fully reported and documented in a transparent manner, including the criteria and considerations used. This section must provide a discussion about the extent to which the alternatives achieve the Federal objective and maximize net public benefits to society. If the basis for selecting the recommended plan depends on non-monetized benefits or costs, the report must include an explanation of the relative importance of these benefits/costs and why they are

not monetized. This section will include a summary of elicited Tribal Nation and stakeholder perspectives on the alternatives and their effects.

(2) The Corps should recommend a decision to either: (1) implement an alternative project, program, or plan, or (2) take no Federal action. Federal investments should seek to meet water resource objectives and maximize net public benefits, relative to public costs. It is possible that more than one alternative might “reasonably and approximately” meet these conditions. “Net public benefits” implies that the anticipated benefits will be presented relative to the costs associated with the accrual of those benefits. Net public benefits can include both quantified and non-quantified benefits. Any recommendation for authorization will clearly delineate the federal water resource project(s) being recommended for authorization and Corps implementation and any condition precedent for construction, with specificity.

(b) *Exceptions.* A recommended plan for a federal water resources investment that does not maximize net public benefits requires an exception from the Assistant Secretary of the Army for Civil Works. Requests for exception should describe the project or activity, the rationale for the exception, and present relevant data and analysis to support the request.

[FR Doc. 2024-02448 Filed 2-14-24; 8:45 am]

BILLING CODE 3720-58-P

## **ATTACHMENT G**

**ASA(CW) Connor Waters and Wetlands Memo**  
**(3/22/2024) (G-1 to G-5)**



DEPARTMENT OF THE ARMY  
OFFICE OF THE ASSISTANT SECRETARY  
CIVIL WORKS  
108 ARMY PENTAGON  
WASHINGTON DC 20310-0108

SACW

22 March 2024

MEMORANDUM FOR COMMANDING GENERAL, U.S. ARMY CORPS OF  
ENGINEERS

SUBJECT: Civil Works Actions to Sustain and Advance the Nation's Waters and  
Wetlands After the Sackett Decision

1. References:

- a. Revised Definition of "Waters of the United States"; Conforming (88 FR 61964)  
(Conforming Rule)
- b. *Sackett v. EPA*, 598 U.S. \_\_\_, 143 S. Ct. 1322 (2023) (*Sackett*)
- c. Compensatory Mitigation for Losses of Aquatic Resources; Final Rule (73 FR  
19594) (2008 Mitigation Rule)

2. Background.

The Clean Water Act set forth goals and objectives for the restoration and maintenance of the chemical, physical, and biological integrity of the Nation's waters. "Waters of the United States" is a threshold term in the Clean Water Act that establishes the geographic scope of federal jurisdiction under the Act, but the Act does not define the term. The Environmental Protection Agency and the Department of the Army have defined "waters of the United States" through regulations since the 1970s, including most recently in a rule issued on September 8, 2023 (reference 1.a.). The definition affects most programs that protect waters under the Act, including the U.S. Army Corps of Engineers (Corps) permitting program for the discharge of dredged and/or fill material under Section 404 of the Clean Water Act.

All our Nation's waters and wetlands are valuable resources, regardless of jurisdictional status under the Act. They provide vital functions in protecting and improving water quality; absorbing and reducing flood waters; providing critical habitat for an abundance of species; and storing water in an era of water scarcity. As a result, wetlands support economic activity; supply drinking water; maintain essential agricultural and industrial water supplies; and improve opportunities for people to enjoy nature and hunt and fish. The *Sackett* decision (reference 1.b.) limited federal protections under the Clean Water Act over the Nation's waters and wetlands by narrowing which wetlands fall under the definition of "waters of the United States" (WOTUS). Wetlands without a continuous surface connection to jurisdictional

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waters are no longer covered under this ruling. Despite the lack of protection under the Act, these aquatic resources continue to be of vital importance to the functioning of healthy watersheds and ecosystems. As a result, this memorandum directs the Corps, in carrying out its Civil Works missions, to use applicable authorities and available resources to engage in specific actions to protect, restore, and enhance our Nation's waters and wetlands that are now more vulnerable, in addition to implementing the Regulatory Program in compliance with all laws and regulations. Specific examples of how to carry-out this directive to appropriately respond to the limited interpretation of WOTUS contained in the *Sackett* decision follows.

### 3. Civil Works Actions.

a. Aquatic Ecosystem Restoration. The Corps' Aquatic Ecosystem Restoration mission inherently serves to meet the purpose and intent of this memorandum. The Corps will seek to increase support for Ecosystem Restoration projects, including those under Section 206 of the Continuing Authorities Program (CAP), through both project and budget development<sup>1</sup>. In particular, the Corps will consider the needs of the watershed in light of the *Sackett* decision through these actions. For example, projects restoring hydrologic connectivity for floodplain wetlands and improving the physical and biological integrity of certain ephemeral streams will be prioritized within the Corps' Aquatic Ecosystem Restoration Business Line. These projects would have public interest considerations as the health of these waters, and the ecosystems they support, are at greater risk in light of the *Sackett* decision. There are currently CAP resources still available through the Infrastructure Investment and Jobs Act (IIJA) to support this effort. In addition, the Fiscal Year 2025 President's Budget includes \$13 million in Section 206 funding for this effort. The Corps is directed to report back within four months on projects identified consistent with this section for potential implementation under the CAP 206 authority.

b. Technical Assistance Programs. The Corps' technical assistance programs, including the Tribal Partnership Program, Floodplain Management Services Program, and Planning Assistance to States Program, can provide assistance to eligible entities to further the objectives in this memorandum. In particular, the Corps can provide eligible entities with watershed and restoration planning assistance, which can benefit aquatic resources which are most impacted in a post-*Sackett* environment. In addition, the Corps has vast experience in implementing regulations related to the definition of WOTUS which gives them the expertise to provide technical assistance to eligible entities as they work to develop new or revised water-related programs or regulations in response to the *Sackett* decision. These technical assistance programs can provide

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<sup>1</sup> I would also highlight that the Corps has the opportunity to support the restoration actions of state, local, and private entities through its permitting programs, particularly the section 408 program to review non-Federal alterations of Corps Civil Works projects. A specific example is the 408 permission issued by Sacramento District for the Lookout Slough Tidal Habitat Restoration and Flood Improvement Project in 2021.

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meaningful services to communities and state agencies, particularly those with environmental justice concerns, who may experience a disproportionate burden of reduced water quality, access to nature, and other challenges related to their interactions with our Nation's waters and wetlands due to the *Sackett* decision. The Corps will incorporate and highlight these opportunities when conducting outreach with eligible entities under the technical assistance programs. I have reserved \$5 million from the IJA Planning Assistance to States resources to support this effort. The Corps is directed to report back within six months on any identified opportunities to provide technical assistance consistent with this section.

c. Nature-based Solutions. Consistent with ongoing efforts and research and development initiatives, the Corps will identify those current initiatives in place to promote the development and integration of more nature-based solutions into Civil Works project planning, design, and construction activities as integral features of project function and/or mitigation. This includes strategies to increase the beneficial use of dredged material as set forth in the Chief of Engineers "Beneficial Use of Dredged Material Command Philosophy Notice" (25 Jan. 2023). These nature-based solutions can serve to construct, restore, and/or use wetlands to enhance and protect some of the resources no longer considered jurisdictional as a result of the *Sackett* decision. I will be sending a follow-on memorandum in the near term specific to nature-based solutions providing direction to accelerate efforts in this area. In addition, the Corps is directed to brief me within 60 days of the date of this memorandum on the implications of a policy directive that would require Civil Works recommended studies to avoid the creation of non-jurisdictional waters and wetlands through constructed project features.

#### 4. Regulatory Program Actions.

a. Approved Jurisdictional Determinations. Transparency in issuing approved jurisdictional determinations will provide the regulated public, interested parties, and state, local, and tribal entities, the information necessary to assess the full impact of the *Sackett* decision on aquatic resources and to develop strategies and actions to compensate for reduced federal jurisdiction. When issuing approved jurisdictional determinations, the Corps shall continue to make information regarding approved jurisdictional determinations available to the public, including posting on their website the Corps' document stating the presence or absence of waters of the United States on a parcel or a written statement and map identifying the limits of waters of the United States on a parcel. The posting will also allow the Corps to track jurisdictional status of aquatic resources to inform potential future actions.

b. Compensatory Mitigation. As provided in the 2008 Mitigation Rule (reference 1.c.), jurisdictional status is not determinative for whether aquatic resources can serve as compensatory mitigation for the unavoidable impacts to waters of the United States authorized by Corps permits. Waters, wetlands, and other types of natural resources (e.g., non-wetland riparian areas and upland buffers) perform a wide variety of

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ecological functions and services, which can be restored, enhanced, established, and preserved to provide compensatory mitigation through mitigation banks, in-lieu fee projects, and permittee-responsible mitigation. The performance of those ecological functions and services occurs regardless of whether those waters, wetlands, and other natural resources are subject to Clean Water Act jurisdiction. In a post-*Sackett* environment, given hydrologic realities and the fact that water resources are connected in many ways including sub-surface flows, the development, restoration, and/or creation of any aquatic resources is likely to further the objective of the Clean Water Act to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. Accordingly, the Corps will continue to evaluate compensatory mitigation proposals to determine whether the proposal is sufficient to offset losses of aquatic resource functions and services caused by permitted activities, regardless of jurisdictional status of the aquatic and other resources provided by a compensatory mitigation project. The definition of "waters of the United States" is limited to the question of Clean Water Act jurisdiction, not for deciding what categories of resources can be restored, enhanced, established, or preserved to provide compensatory mitigation.

Both jurisdictional and non-jurisdictional aquatic and other resources to serve as compensatory mitigation can support a watershed-based approach under the Mitigation Rule. Non-jurisdictional aquatic resources may be even more valuable as compensatory mitigation after the *Sackett* decision as they are currently without federal protection under the Clean Water Act, and including these resources as compensatory mitigation helps protect them from direct alteration through site protection instruments and other provisions in the 2008 Mitigation Rule. Including non-jurisdictional aquatic resources as compensatory mitigation, in particular for existing and future mitigation banks and in-lieu fee projects, ensures these resources continue to provide critical functions and services to the watershed. The Corps will continue to follow the provisions in the 2008 Mitigation Rule regarding the ability of the Corps to approve the use of non-jurisdictional aquatic resources and other resources to provide compensatory mitigation for Department of the Army permits.

The Corps is directed to report back within 120 days of the date of this memorandum on compliance status across Corps districts with this mitigation policy; to include how many Corps districts have been following this policy since the issuance of the 2008 Mitigation Rule; if Corps districts have not been following the policy what next steps should occur to achieve compliance; and the number and locations of existing mitigation banks and in lieu fee projects.

5. The Corps will provide a comprehensive status update on the implications of the Sackett decision and the actions taken under the directives in this memorandum within one year of the date of this memorandum.

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6. Questions regarding this matter may be directed to Stacey Jensen, Acting Director for Policy and Legislation, Office of the Assistant Secretary of the Army (Civil Works), at (703) 459-6026 or [stacey.m.jensen.civ@army.mil](mailto:stacey.m.jensen.civ@army.mil).

A handwritten signature in black ink, appearing to read "Michael L. Connor", with a long horizontal flourish extending to the right.

MICHAEL L. CONNOR  
Assistant Secretary of the Army  
(Civil Works)

CF:  
DCG-CEO  
DCW  
DGC-IECW

# ATTACHMENT H

## Additional Items

- Future Meeting Schedule (*H-1*)
- Frequently Used Acronyms (4-29-2022) (*H-2 to H-8*)



**QUARTERLY MEETINGS  
FUTURE MEETING SCHEDULE**

<b>AUGUST 2024</b>	
<u>Minneapolis-St. Paul Metro</u>	
August 6	UMRBA Quarterly Meeting
August 7	UMRR Coordinating Committee Quarterly Meeting

<b>NOVEMBER 2024</b>	
<u>St. Louis, MO</u>	
November 19	UMRBA Quarterly Meeting
November 20	UMRR Coordinating Committee Quarterly Meeting

## Acronyms Frequently Used on the Upper Mississippi River System

AAR	After Action Report
A&E	Architecture and Engineering
ACRCC	Asian Carp Regional Coordinating Committee
AFB	Alternative Formulation Briefing
AHAG	Aquatic Habitat Appraisal Guide
AHRI	American Heritage Rivers Initiative
AIS	Aquatic Invasive Species
ALC	American Lands Conservancy
ALDU	Aquatic Life Designated Use(s)
AM	Adaptive Management
ANS	Aquatic Nuisance Species
AP	Advisory Panel
APE	Additional Program Element
ARRA	American Recovery and Reinvestment Act
ASA(CW)	Assistant Secretary of the Army for Civil Works
A-Team	Analysis Team
ATR	Agency Technical Review
AWI	America's Watershed Initiative
AWO	American Waterways Operators
AWQMN	Ambient Water Quality Monitoring Network
BA	Biological Assessment
BATIC	Build America Transportation Investment Center
BCOES	Bid-ability, Constructability, Operability, Environmental, Sustainability
BCR	Benefit-Cost Ratio
BMPs	Best Management Practices
BO	Biological Opinion
CAP	Continuing Authorities Program
CAWS	Chicago Area Waterways System
CCC	Commodity Credit Corporation
CCP	Comprehensive Conservation Plan
CEICA	Cost Effectiveness Incremental Cost Analysis
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CFS	Cubic Feet Per Second
CG	Construction General
CIA	Computerized Inventory and Analysis
CMMP	Channel Maintenance Management Plan
COE	Corps of Engineers
COPT	Captain of the Port
CPUE	Catch Per Unit Effort
CRA	Continuing Resolution Authority
CREP	Conservation Reserve Enhancement Program
CRP	Conservation Reserve Program

CSP	Conservation Security Program
CUA	Cooperative Use Agreement
CWA	Clean Water Act
CY	Cubic Yards
DALS	Department of Agriculture and Land Stewardship
DED	Department of Economic Development
DEM	Digital Elevation Model
DET	District Ecological Team
DEWS	Drought Early Warning System
DMMP	Dredged Material Management Plan
DNR	Department of Natural Resources
DO	Dissolved Oxygen
DOA	Department of Agriculture
DOC	Department of Conservation
DOER	Dredging Operations and Environmental Research
DOT	Department of Transportation
DPR	Definite Project Report
DQC	District Quality Control/Quality Assurance
DSS	Decision Support System
EA	Environmental Assessment
ECC	Economics Coordinating Committee
EEC	Essential Ecosystem Characteristic
EIS	Environmental Impact Statement
EMAP	Environmental Monitoring and Assessment Program
EMAP-GRE	Environmental Monitoring and Assessment Program-Great Rivers Ecosystem
EMP	Environmental Management Program [Note: Former name of Upper Mississippi River Restoration Program.]
EMP-CC	Environmental Management Program Coordinating Committee
EO	Executive Order
EPA	Environmental Protection Agency
EPM	Environmental Pool Management
EPR	External Peer Review
EQIP	Environmental Quality Incentives Program
ER	Engineering Regulation
ERDC	Engineering Research & Development Center
ESA	Endangered Species Act
EWMN	Early Warning Monitoring Network
EWP	Emergency Watershed Protection Program
FACA	Federal Advisory Committee Act
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FDR	Flood Damage Reduction
FFS	Flow Frequency Study
FMG	Forest Management Geodatabase
FONSI	Finding of No Significant Impact
FRM	Flood Risk Management

FRST	Floodplain Restoration System Team
FSA	Farm Services Agency
FTE	Full Time Equivalent
FWCA	Fish & Wildlife Coordination Act
FWIC	Fish and Wildlife Interagency Committee
FWS	Fish and Wildlife Service
FWWG	Fish and Wildlife Work Group
FY	Fiscal Year
GAO	Government Accountability Office
GEIS	Generic Environmental Impact Statement
GI	General Investigations
GIS	Geographic Information System
GLC	Governors Liaison Committee
GLC	Great Lakes Commission
GLMRIS	Great Lakes and Mississippi River Interbasin Study
GPS	Global Positioning System
GREAT	Great River Environmental Action Team
GRP	Geographic Response Plan
H&H	Hydrology and Hydraulics
HAB	Harmful Algal Bloom
HEC-EFM	Hydrologic Engineering Center Ecosystems Function Model
HEC-RAS	Hydrologic Engineering Center River Analysis System
HEL	Highly Erodible Land
HEP	Habitat Evaluation Procedure
HNA	Habitat Needs Assessment
HPSF	HREP Planning and Sequencing Framework
HQUSACE	Headquarters, USACE
H.R.	House of Representatives
HREP	Habitat Rehabilitation and Enhancement Project
HSI	Habitat Suitability Index
HU	Habitat Unit
HUC	Hydrologic Unit Code
IBA	Important Bird Area
IBI	Index of Biological (Biotic) Integrity
IC	Incident Commander
ICS	Incident Command System
ICWP	Interstate Council on Water Policy
IDIQ	Indefinite Delivery/Indefinite Quantity
IEPR	Independent External Peer Review
IGE	Independent Government Estimate
IIA	Implementation Issues Assessment
IIFO	Illinois-Iowa Field Office (formerly RIFO - Rock Island Field Office)
ILP	Integrated License Process
IMTS	Inland Marine Transportation System
IPR	In-Progress Review
IRCC	Illinois River Coordinating Council

IRPT	Inland Rivers, Ports & Terminals
IRTC	Implementation Report to Congress
IRWG	Illinois River Work Group
ISA	Inland Sensitivity Atlas
IWR	Institute for Water Resources
IWRM	Integrated Water Resources Management
IWS	Integrated Water Science
IWTF	Inland Waterways Trust Fund
IWUB	Inland Waterways Users Board
IWW	Illinois Waterway
L&D	Lock(s) and Dam
LC/LU	Land Cover/Land Use
LDB	Left Descending Bank
LERRD	Lands, Easements, Rights-of-Way, Relocation of Utilities or Other Existing Structures, and Disposal Areas
LiDAR	Light Detection and Ranging
LMR	Lower Mississippi River
LMRCC	Lower Mississippi River Conservation Committee
LOI	Letter of Intent
LTRM	Long Term Resource Monitoring
M-35	Marine Highway 35
MAFC	Mid-America Freight Coalition
MARAD	U.S. Maritime Administration
MARC 2000	Midwest Area River Coalition 2000
MCAT	Mussel Community Assessment Tool
MICRA	Mississippi Interstate Cooperative Resource Association
MDM	Major subordinate command Decision Milestone
MIPR	Military Interdepartmental Purchase Request
MMR	Middle Mississippi River
MMRP	Middle Mississippi River Partnership
MNRG	Midwest Natural Resources Group
MOA	Memorandum of Agreement
MoRAST	Missouri River Association of States and Tribes
MOU	Memorandum of Understanding
MRAPS	Missouri River Authorized Purposes Study
MRBI	Mississippi River Basin (Healthy Watersheds) Initiative
MRC	Mississippi River Commission
MRCC	Mississippi River Connections Collaborative
MRCTI	Mississippi River Cities and Towns Initiative
MRRC	Mississippi River Research Consortium
MR&T	Mississippi River and Tributaries (project)
MSP	Minimum Sustainable Program
MVD	Mississippi Valley Division
MVP	St. Paul District
MVR	Rock Island District
MVS	St. Louis District

NAS	National Academies of Science
NAWQA	National Water Quality Assessment
NCP	National Contingency Plan
NIDIS	National Integrated Drought Information System (NOAA)
NEBA	Net Environmental Benefit Analysis
NECC	Navigation Environmental Coordination Committee
NED	National Economic Development
NEPA	National Environmental Policy Act
NESP	Navigation and Ecosystem Sustainability Program
NETS	Navigation Economic Technologies Program
NGO	Non-Governmental Organization
NGRREC	National Great Rivers Research and Education Center
NGWOS	Next Generation Water Observing System
NICC	Navigation Interests Coordinating Committee
NPDES	National Pollution Discharge Elimination System
NPS	Non-Point Source
NPS	National Park Service
NRC	National Research Council
NRCS	Natural Resources Conservation Service
NRDAR	Natural Resources Damage Assessment and Restoration
NRT	National Response Team
NSIP	National Streamflow Information Program
NWI	National Wetlands Inventory
NWR	National Wildlife Refuge
O&M	Operation and Maintenance
OHWM	Ordinary High Water Mark
OMB	Office of Management and Budget
OMRR&R	Operation, Maintenance, Repair, Rehabilitation, and Replacement
OPA	Oil Pollution Act of 1990
ORSANCO	Ohio River Valley Water Sanitation Commission
OSC	On-Scene Coordinator
OSE	Other Social Effects
OSIT	On Site Inspection Team
P3	Public-Private Partnerships
PA	Programmatic Agreement
PAS	Planning Assistance to States
P&G	Principles and Guidelines
P&R	Principles and Requirements
P&S	Plans and Specifications
P&S	Principles and Standards
PCA	Pollution Control Agency
PCA	Project Cooperation Agreement
PCX	Planning Center of Expertise
PDT	Project Delivery Team
PED	Preconstruction Engineering and Design
PgMP	Program Management Plan

PILT	Payments In Lieu of Taxes
PIR	Project Implementation Report
PL	Public Law
PMP	Project Management Plan
PORT	Public Outreach Team
PPA	Project Partnership Agreement
PPT	Program Planning Team
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RCP	Regional Contingency Plan
RCPP	Regional Conservation Partnership Program
RDB	Right Descending Bank
RED	Regional Economic Development
RIFO	Rock Island Field Office (now IIFO - Illinois-Iowa Field Office)
RM	River Mile
RP	Responsible Party
RPEDN	Regional Planning and Environment Division North
RPT	Reach Planning Team
RRAT	River Resources Action Team
RRCT	River Resources Coordinating Team
RRF	River Resources Forum
RRT	Regional Response Team
RST	Regional Support Team
RTC	Report to Congress
S.	Senate
SAV	Submersed Aquatic Vegetation
SDWA	Safe Drinking Water Act
SEMA	State Emergency Management Agency
SET	System Ecological Team
SMART	Specific, Measurable, Attainable, Risk Informed, Timely
SONS	Spill of National Significance
SOW	Scope of Work
SRF	State Revolving Fund
SWCD	Soil and Water Conservation District
T&E	Threatened and Endangered
TEUs	twenty-foot equivalent units
TIGER	Transportation Investment Generating Economic Recovery
TLP	Traditional License Process
TMDL	Total Maximum Daily Load
TNC	The Nature Conservancy
TSP	Tentatively selected plan
TSS	Total Suspended Solids
TVA	Tennessee Valley Authority
TWG	Technical Work Group
UMESC	Upper Midwest Environmental Sciences Center

UMIMRA	Upper Mississippi, Illinois, and Missouri Rivers Association
UMR	Upper Mississippi River
UMRBA	Upper Mississippi River Basin Association
UMRBC	Upper Mississippi River Basin Commission
UMRCC	Upper Mississippi River Conservation Committee
UMRCP	Upper Mississippi River Comprehensive Plan
UMR-IWW	Upper Mississippi River-Illinois Waterway
UMRNWFR	Upper Mississippi River National Wildlife and Fish Refuge
UMRR	Upper Mississippi River Restoration Program [Note: Formerly known as Environmental Management Program.]
UMRR CC	Upper Mississippi River Restoration Program Coordinating Committee
UMRS	Upper Mississippi River System
UMWA	Upper Mississippi Waterway Association
USACE	U.S. Army Corps of Engineers
USCG	U.S. Coast Guard
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VTC	Video Teleconference
WCI	Waterways Council, Inc.
WES	Waterways Experiment Station (replaced by ERDC)
WHAG	Wildlife Habitat Appraisal Guide
WHIP	Wildlife Habitat Incentives Program
WIIN	Water Infrastructure Improvements for the Nation Act
WLM	Water Level Management
WLMTF	Water Level Management Task Force
WQ	Water Quality
WQEC	Water Quality Executive Committee
WQTF	Water Quality Task Force
WQS	Water Quality Standard
WRDA	Water Resources Development Act
WRP	Wetlands Reserve Program
WRRDA	Water Resources Reform and Development Act