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Regulation  
No. 1105-2-102

01 April 2022

Water Resource Policies and Authorities  
WATERSHED STUDIES

1. Purpose.

a. This Regulation establishes an accountable strategy for conducting watershed studies with U.S. Army Corps of Engineers (USACE) participation. This Regulation includes policy and process guidance. The policy portion of this guidance applies to: watershed studies led by USACE under Section 729 of the Water Resources Development Act (WRDA) 1986, as amended (33 United States Code [U.S.C.] §2267(a)); other specifically authorized watershed studies; watershed assessments completed under the Tribal Partnership Program (TPP) authority, Section 203 of WRDA 2000, as amended (33 U.S.C. §2269); and to certain comprehensive studies, depending on the study authority.

b. The process portion of this guidance provides the procedures for the preparation and coordination of watershed plans for studies led by USACE under Section 729 of WRDA 1986, other specifically authorized watershed planning authorities, and certain comprehensive studies. Additional guidance on the procedures leading to a watershed study under the TPP authority will be provided separately. Finally, this Regulation provides the procedures for communication and reporting if USACE is a participating agency in a watershed study.

2. Applicability. This Regulation applies to all USACE Headquarters (HQUSACE) elements, major subordinate commands, districts, laboratories, centers of expertise, and field operating activities that have civil works planning, engineering, design, construction, and operations and maintenance responsibilities.

3. Distribution Statement. Approved for public release; distribution is unlimited.

FOR THE COMMANDER:

3 Appendixes

  
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CECW-P

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\* This Regulation supersedes and replaces Engineer Circular (EC) 1105-2-411: Watershed Plans and replaces Planning Bulletin (PB) 2019-01: Watershed Studies.

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4. References. References are provided as Appendix A.

5. Records Management (Recordkeeping) Requirements. The records management requirement for all record numbers, associated forms, and reports required by this regulation are addressed in the Army's Records Retention Schedule—Army (RRS-A). Detailed information for all related record numbers are located in the Army Records Information Management System (ARIMS)/RRS-A at <https://www.arims.army.mil>. If any record numbers, forms, and reports are not current, addressed, and/or published correctly in ARIMS/RRS-A, see Department of the Army Pamphlet 25-403: Guide to Recordkeeping in the Army.

6. Authority. Section 729 of WRDA 1986, as amended, and other specifically authorized watershed authorities allow USACE to study the water resources needs of coastal and inland river basins and regions of the United States, in consultation with federal, state, tribal, interstate, and local governmental entities. The TPP authority allows USACE to conduct watershed assessments and planning activities for the substantial benefit of Indian tribes that are located primarily within Indian country where the watershed is located. This Regulation supersedes and replaces Engineer Circular (EC) 1105-2-411: Watershed Plans and replaces Planning Bulletin (PB) 2019-01: Watershed Studies.

7. Background.

a. This Regulation incorporates USACE principles and guidelines related to watershed studies as they have evolved through prior guidance. Since the 1990s, USACE has engaged in a more comprehensive view of water resources planning, recognizing the need to undertake planning in a broader, more integrated, systems context.

b. EC 1105-2-411 (issued 15 January 2010; expired 15 January 2012) explained that watershed planning goes beyond project planning for specific USACE projects and that watershed plans should inform multiple audiences and decision makers at all levels of government, and provide a strategic roadmap to inform future investment decisions by multiple agencies. PB 2019-01: Watershed Studies further outlined USACE approach to watershed planning to include Risk-Informed Planning principles, updated milestone nomenclature, reporting requirements, and required vertical team engagement and alignment on key decisions.

8. USACE Participation in Watershed Planning. USACE participation in the development of watershed studies is expected to address problems, needs and opportunities within a watershed or regional context. The watershed study should also incorporate Integrated Water Resources Management (IWRM) principles to develop holistic plans, recommended strategies, policies, programs, or projects to address watershed needs. There are two primary ways USACE can participate in watershed planning: one as a lead agency and the other as a participating agency.

a. USACE as Lead Agency in Watershed Planning: Comprehensive watershed studies that result in a watershed plan and may be also known as a watershed assessment, river basin assessment, comprehensive plan, or watershed plan (not a project). This Regulation primarily applies to USACE-led watershed plans.

b. USACE as a Participant in Watershed Planning (Not the Lead Agency).

(1) Providing USACE technical expertise, skills, tools, and data to support ongoing watershed efforts led by others. USACE support may also be as convener or integrator of ongoing efforts led by others with development of a shared vision as the end product, and no further USACE participation. Flood Plain Management Services, Planning Assistance to States, and other similar technical assistance authorities can be used to provide USACE support as a participant in watershed planning.

(2) Such activities will be performed in compliance with the guidance applicable to the authority used. In instances where USACE is a participant in watershed planning, the policy concepts described in paragraph 8 of this Regulation should be followed. However, the process and products of the watershed study will be dependent on the procedures of the lead watershed planning entity. The District Chief of Planning will be responsible for oversight of these USACE efforts.

9. Preparing for USACE Participation in Watershed Plans.

a. IWRM: IWRM is an overarching strategy that provides a holistic focus on water resource challenges and opportunities through coordinated development and management of water and related resources. IWRM involves multi-sector collaboration and adaptive management rather than single sector management and planning of land and water resources, and considers economic benefits, ecosystem quality, health, and public safety. The principles include focusing

on multiple objectives and tradeoffs, accounting for uncertainty, accommodating the concepts of adaptive management, stakeholder collaboration, and systems analysis for watershed-scale planning and evaluation. The principles are integral parts of watershed planning and should be reflected in USACE participation, decision making, and documentation.

b. Systems Approach.

(1) Within watersheds, there are many competing demands for available water resources that may or may not interact with one another. In utilizing a systems approach within a watershed, the planning effort should identify and characterize the systems of interest to the current and future needs of the watershed. This approach shifts away from limiting the scale of a study using jurisdictional or political boundaries to an IWRM approach that works across boundaries.

(2) Systems that may be considered in watershed planning include, but are not limited to, such things as river and drainage systems, geomorphic and subterranean resources, weather (including climate preparedness), water supply and wastewater systems, economic systems, recreational systems, institutional systems and legal frameworks, regulatory frameworks, floodplain management, ecosystems, water management systems, navigation systems, and any other characterized system pertinent to the needs of the watershed effort.

(3) The systems approach within watersheds shifts the emphasis of making decisions from identifying individual projects to long-term solutions that consider a broader range of impacts and the entire lifecycle of any actions. This approach of thinking and working recognizes that water resources problems and opportunities exist in systems and requires use of systems analysis methods and tools to understand and assess the interconnected nature of watersheds and the economic and ecologic systems they support. The systems approach can be scaled to the complexity and level of detail necessary for a specific watershed or watershed planning task. Planners and decision makers can deal with the complexities of a system and evaluate holistic inputs and outputs using this approach.

(4) Particular attention should be paid to the interrelationships among land resources and water bodies and the upstream-to-downstream linkages that characterize a watershed. The cumulative effects of any action that may occur among these systems and along these links must also be considered during the planning process. The interaction, coordination, and integration of the applicable considerations and needs within the watershed across systems, agencies, and programs should seek interdependent, long-term holistic solutions rather than piecemeal approaches and provide a blueprint for continued involvement in the watershed, regardless of the entity(ies) that might ultimately implement the proposed actions.

c. Study Area: Watershed planning shifts away from limiting the scale of a project using cultural or political boundaries and, by definition, focuses on a geographic area that is defined by a drainage basin or a region of the United States. Most frequently, this geographic area is described using hydrologic cataloging units and should address an area large enough to examine and address the problems, opportunities, and candidate solutions. In some cases, aspects other than hydrologic interaction may contribute to defining the “planning area.” For example, the planning area associated with an inland waterway and related port capability problems is likely to include the regional transportation sector.

d. Leveraging of Resources.

(1) Watershed planning provides a framework for a unified watershed vision and supporting goals. This framework should guide investments in the watershed, allow for development of public-private partnerships, and empower local resources managers to implement watershed solutions at the local level. Watershed planning should include strategies for implementation, both federal and non-federal, to allow programs to work together over time.

(2) Federal, state, tribal, and local government missions, goals, objectives, funding requirements, and timeframes should be fully understood so that efforts can be accomplished by various entities in an integrated way consistent with a collaboratively developed plan. Through data sharing and recognition of each entities' areas of expertise, limited resources can be used over time in a more integrated fashion to achieve a greater sum than if the agencies and stakeholders pursued action independently. The objective is to consider and apply the various capabilities, programs, resources, and authorities of the different collaborators to develop and implement effective watershed strategies or plans using innovative arrangements.

10. Watershed Planning Process.

a. Risk-Informed Planning principles are integral to watershed studies and are a standard USACE business process. Project delivery teams (PDTs) are required to incorporate critical thinking, risk-informed decision making, and early and frequent vertical team engagement throughout the study process. While there are no set restrictions for cost and schedule for watershed studies, they are not intended to be open-ended studies. Budget and schedule should be determined based on the size and complexity of the watershed study and clearly scoped in the Project Management Plan (PMP).

b. The following elements provide an example of components of watershed planning process similar to the iterative six-step USACE project planning process. This is one approach to planning that may be used for a watershed study although other planning approaches are also acceptable.

c. Six-Step Watershed Planning Process.

(1) Identify Problems and Opportunities: Determine problems, needs, and opportunities in the watershed by involving study partners, water and related land resources interests (stakeholders), resource agencies and the public. Federal agency partnerships and expansive stakeholder involvement are necessary to collect a broad view of problems, needs, and opportunities, including items that may not be seen in more conventional project planning and reaffirm the purpose of the watershed study. Problems may include institutional barriers, where the associated opportunity is a full partnership by all relevant agencies to examine existing policies and procedures. Planning is an iterative process and the problems, opportunities, objectives, and constraints should be reassessed after key decision point milestones.

(2) Inventory and Forecasting.

(a) Prepare a collaborative inventory of relevant water and related land resources, consistent with the needs of the study, such as land use, multiple agency programs and capabilities, jurisdictional boundaries, demands and needs within the watershed, existing models, existing mapping and data, water supply and treatment systems, water rights, transportation systems, or any inventory consistent with the needs of the study. Some inventory and forecast activities may not be directly related to a specific geographic location, but rather would identify gaps in authorities needed to address specific problems. The forecast period of analysis will be 20-50 years in concert with State, regional and tribal planning efforts.

(b) Reasonable efforts must be made to obtain and analyze relevant data, even where available data may be limited at the outset. Inventory is not limited to those areas used to develop analyses directly related to site-specific project planning. Include an examination of anticipated future actions, activities, and outcomes that reflect reasonable risk-informed assessments, consistent with the needs of the study, with clearly described assumptions and uncertainties that allow for consideration of the likely effects of a range of activities, decisions, or other courses of action.

(3) Identify and Screen Measures: Develop management measures that address one or more of the planning objectives. Measures can be combined or used alone to make strategies that can be considered for recommendations. Measures may be based on a feature or activity at a site and some measures may go beyond that which can be constructed or built to include activities such as outreach, proposed regulatory actions, or a programmatic approach to existing requirements. Measures will be screened initially by using constraints, expert judgment, metrics, and specific screening criteria to focus on those that will contribute toward meeting the planning objectives.

(4) Formulate Initial Array of Strategies: Using the list of measures, provide a clear description of alternative approaches to address identified problems and needs, emphasizing alignment of actions of federal, tribal, state, interstate, and local government entities, with an explanation of expected outcomes resulting from combinations of measures and actions considered. Strategies should be developed in the context of options or choices and their projected outcomes and should be developed based on reputable and readily available science and technical analyses.

(5) Refine Initial Array and Evaluate Focused Array of Strategies: Evaluate the alternative strategies, in consultation with study partners and stakeholders, to assess how effectively the strategies address the identified problems, while focusing on the collective values, missions, and the shared vision. There may be a number of ways to address the needs within a watershed; structured assessment of the pros and cons of each strategy can be used to inform a tradeoff analysis. The four evaluation criteria (completeness, effectiveness, efficiency, and acceptability) outlined in the Economic and Environmental Principles & Guidelines for Water and Related Land Resources Implementation Studies (U.S. Water Resources Council, 1983) provide a solid and flexible framework for comparing strategies from a variety of perspectives.

(6) Strategy Comparison and Selection.

(a) Compare the strategies against one another, noting tradeoffs between the strategies, and select the best suited strategy for meeting the watershed study goals and objectives. The strategies must clearly describe the overall benefits toward advancing the shared vision and a general assessment of cost effectiveness, sequencing and priority of actionable items, and associated needs. As the strategies are described in the watershed study, the primary responsible federal and non-federal partner(s) and their associated missions, authorities, programs, and sources for potential future appropriations should also be identified to inform a strategic roadmap that guides implementation and provides measurable value to the nation.

(b) Throughout the collaborative study process, an attempt should be made to achieve alignment of partner agencies and stakeholders for the recommended actions. For actions that are controversial, or where it is evident the stakeholders cannot agree on a strategy, the watershed study should frame the recommended actions as those that would be most effective in solving the identified problems, regardless of whether the implementing agency chooses to take action.

d. The District Planning Chief is responsible for ensuring PDT adherence to planning principles, the USACE six-step process or other agreed-upon strategies.

11. Initiating a USACE-Led Watershed Study. Watershed studies will be completed consistent with Section 729 of WRDA 1986, as amended, or as specifically authorized. Comprehensive studies are conducted according to the corresponding Implementation Guidance for their respective specific authorization.

a. Watershed Study Agreement.

(1) A non-federal sponsor will sign a cost-sharing agreement for watershed studies to initiate USACE involvement. No work may begin on these assessments prior to execution of a cost-sharing agreement. Non-federal sponsors must be prepared to provide \$25K for initiation of the study, and additional funds if needed, to develop the PMP. Once the PMP is developed, the non-federal sponsor must provide its funding or in-kind contributions consistent with federal funding and cost-sharing provisions of the study authority.

(2) The Model Agreement for Cost-Shared Watershed and River Basin Assessments must be used for all watershed and river basin assessments conducted under Section 729 and other applicable authorities for watershed plans and comprehensive studies, including TPP, that are cost shared 75% federal and 25% non-federal. Review and approval of an agreement that does not deviate from the approved model is delegated to the Major Subordinate Command (MSC) Commander and may be further delegated to the District Commander.

b. Watershed Study Cost-Sharing: Watershed studies are cost shared 75% federal/25% non-federal. Non-federal sponsors may contribute their share of the costs of the study as in-kind contributions. “In-kind contributions” means those planning activities (including data collection and other services) that are integral to the watershed study and would otherwise have been undertaken by USACE for the study and that are identified in the PMP and performed or provided by the non-federal sponsor after the effective date of the watershed study agreement and consistent with the PMP. Watershed plans and comprehensive studies conducted under other specific authorities will follow cost-sharing specified in that authority.

c. PMP.

(1) The overall scope and scale of the study, as documented in the PMP prepared by the PDT and developed in consultation with the non-federal sponsor, will be approved by the District Planning Chief within the first 6 months of the study. The PMP is to be scaled to the level of USACE involvement as the lead agency or as a participant in the watershed study.

(2) A Vertical Team Alignment Memorandum (VTAM) is required within 6 months of starting a watershed or comprehensive study. The VTAM will include the District Planning Chief endorsement and a copy of the PMP that includes a scope, schedule, and future funding stream requirements through completion. The VTAM will be copy furnished and coordinated through the vertical team, which will include coordination with the Chief, Office of Water Project Review (OWPR), the Regional Integration Team (RIT) Planner, and the District and MSC Policy and Planning Chiefs. The results of this coordination will be documented in electronic correspondence.

(3) When preparing the scope and scale of the study for the PMP, the following considerations will be taken into account:

(a) Benefit Evaluation.

- Benefit evaluation for watershed plans may be qualitative in nature, with a range of benefits for comparison, or assessments based on qualitative rankings (such as high, medium, or low). Watershed planning may involve benefit analysis and evaluation including identification of economic and environmental benefits, cost-effectiveness and incremental cost analyses, and tradeoffs at a survey level. Watershed planning may involve a wide variety of proven economic methodologies appropriate to the study effort, including monetary and non-monetary assessments based on yielding the highest value or utility for an alternative’s combined objectives and identified needs.

- USACE economic principles and expertise should be applied in watershed planning and scaled appropriately to meet the needs of the study. Economic evaluations may include National Economic Development assessments, impacts on the local and regional economy including employment and income (Regional Economic Development), life and safety impacts and other social effects, ecosystem goods and services, environmental quality, and/or financial analyses. Use of methodologies adopted by other federal agencies for benefit evaluation may also be appropriate.

- In all cases, the uncertainties, assumptions, specifications, and planning objectives need to be identified early in the study, be clearly documented and communicated, and must demonstrate their adequacy through review processes.

(b) Cost Estimates. Concept screening cost estimates can assist decision makers in assessing efficient allocation of limited resources. In watershed planning, costs for measures and strategies are pre-budget development and may be Class 5 estimates as defined in Engineer Regulation (ER) 1110-2-1302. Costs may also be categorized qualitatively by high, medium, and low to generate a non-quantitative ranking or least cost options and outcomes.

(c) Engineering. Engineering evaluations tailored to the watershed planning effort based upon the identified needs is appropriate. USACE engineering principles and expertise including hydrologic and hydraulic (H&H) modeling may be applied in watershed planning to meet the needs of the assessment. Use of H&H models and expertise outside USACE is also appropriate as long as it meets the needs of the assessment.

(d) Operations. Because of significant enduring stakeholder engagements and working relationships, explicit coordination with USACE Civil Works Operations Division is appropriate in all cases where USACE infrastructure operates in the affected watershed(s). Operations professionals offer a unique window into the watershed setting through routine working-level professional relationships within the systems being studied. USACE Civil Works biologists and natural resource professionals in the field may not be used as a substitute for vigorous non-federal collaboration. However, their understanding of the context and ability to interpret input from involved stakeholders should be leveraged.

(e) National Environmental Policy Act (NEPA) and Environmental Compliance. Because a watershed study will not generate a specific proposal for a major federal action that could adversely affect the human environment as defined by NEPA, the preparation of a NEPA document is not required as part of a watershed study. When a watershed study recommends the initiation of a site-specific feasibility study that may result in a specific proposal, this subsequent study will require a specific NEPA document.

(f) Real Estate. Detailed real estate information is not required but real estate information should be tailored to a level of detail consistent with the watershed planning effort and consideration of potential real estate requirements should be acknowledged where appropriate. A real estate representative from any participating agency may participate in the watershed planning effort where appropriate.

(g) Data Quality and Model Quality Assurance. In conducting watershed plans, and overall watershed planning, it is recognized that many agencies and stakeholders have developed numerous models and data. Use of existing models and data in watershed planning, whether it is from USACE, other federal agencies, or local entities is encouraged through collaborative processes. While formal model approval is not required, the quality and validity of these models and data must be evaluated and the agency technical review documented by the appropriate agencies.

(h) Climate Preparedness. Consideration of climate preparedness is required for watershed plans. The climate preparedness assessment should consist of a qualitative analysis of historical climate trends, as well as assessment of future projections. The qualitative analysis should be used to support the assessment of climate change risk to the watershed. The initial scoping phase of the qualitative assessment should be completed early in the watershed planning process, prior to the Shared Vision Milestone (see paragraph 13 for milestone description). The vulnerability assessment and risk assessment phases are scalable based on the complexity of the recommendations in the watershed study.

(i) Floodplain Management. In watershed planning, a basin-wide watershed approach to floodplain management that considers the interdependencies of natural systems should be applied, recognizing that watersheds and floodplains are interconnected systems. If project implementation actions are pursued by others during a watershed study, modifications to the floodplain need to fully consider the system impacts that may occur.

d. Public Involvement, Collaboration and Coordination Plan: Public involvement, collaboration, and consultation with affected federal, tribal, state, interstate, and local government entities is a keystone of the USACE watershed approach and integral to advancing toward a common vision. A partnership of these entities should be formed at the outset of the planning process and should continue throughout the planning process. The goal of public involvement, collaboration, and coordination is to open and maintain channels of communication to solicit input and help ensure the transparency of planning efforts to the public in general, in order to give full consideration to the views of others in the planning process.

(1) Coordination with other government entities enables USACE to leverage the expertise, authorities, and resources of those entities as well as to consider their issues and concerns. Collaboration and coordination with stakeholders, including local and regional government units, government agencies, Tribal Nations, nonprofit organizations, and the public efficiently leverages available resources to increase communication, partnerships, and shared responsibility for watershed management.

(2) USACE is required to coordinate with federal, tribal, state, interstate, and local government entities when leading a watershed study. Both public involvement and consultation must occur, however, with the awareness that USACE cannot relinquish its statutory decision-making responsibility. The public involvement strategy and the collaborative partnership strategy must be developed and included in the PMP.

(3) Strategies for developing effective public involvement are described in Engineering Pamphlet (EP) 1105-2-57: Stakeholder Engagement, Collaboration, and Coordination to keep the public and other stakeholders informed of the USACE plan as it develops, and to consider the public's views during the process. In addition, the Council on Environmental Quality has published a handbook that provides a framework for considering collaboration strategies (see Appendix A) and Shared Vision Planning Methods and Models are available through the USACE Institute for Water Resources.

e. Review Processes: The approach to product review for each USACE-led watershed effort must be specified in a Review Plan (RP) as described in ER 1165-2-217: Policy Review for Civil Works, or superseding guidance. Each RP will be coordinated, approved, and posted as directed in the existing guidance on independent review processes. Independent External Peer Review as described in ER 1165-2-217 is not required for watershed plans. In addition, formal model review and approval is not required for watershed plans. The MSC will document quality assurance requirements and serve as the Review Management Organization. RP development and approval will follow the aforementioned review guidance.

## 12. Expected Outcomes for USACE-Led Watershed Plans.

a. Watershed studies provide an assessment of problems and identification of recommendations for actions that can be taken to address the identified problems. The product may take the form of a watershed management plan, watershed assessment, river basin assessment, comprehensive plan, or watershed study. The conclusions and recommendations have broad implications for decision makers at all levels of government. In cases where identified actions are outside of USACE programs and authorities, the recommendations are to be considered only as findings of the study and not as a recommendation of USACE.

b. Future actions for improvements to the nation's water resources can include suggested strategies, policies (new policies or revisions to existing policies), programs for local or state agencies and multi-agency partnerships, or federal and non-federal programs or projects (subject to specific authorities, analysis, or decision-making processes). Such actions should include as appropriate a strategic roadmap that identifies the sequencing of priorities, where federal authorities and appropriations are available, and where new ones are needed.

c. Where USACE has authority, recommendations can include activities under Flood Plain Management Services, Planning Assistance to States, the TPP, the Continuing Authorities Program, or other applicable authorities. Watershed plans may also recommend the initiation of site-specific spin-off feasibility studies where there is potential federal interest in a project(s) that would require Congressional authorization. If there is a spin-off study identified for USACE to participate in, the study will compete as a new start consistent with current budgetary guidance. A separate Feasibility Cost-Sharing Agreement, PMP, and RP are required for a recommended project-specific study. Alternatively, the watershed plan may identify limited or no further USACE involvement.

d. Regardless of whether there are future actions for USACE, the watershed study should provide a strategic overview that illustrates how the individual recommendations cohesively tie together to advance the shared vision and further achieve the desired end-state. Where USACE actions are recommended, it should also describe how those actions integrate with work being done by others in the watershed.

13. Vertical Team Engagement, Annual In-Progress Reviews and Study Milestones. The PDT will be held accountable for the scope, schedule, and budget as presented in the PMP and at each milestone. Throughout a watershed study, the PDT should engage with the vertical team, especially when there is a need to deviate from previously agreed-upon scope, schedule, or

budget, or when there are significant policy issues that need resolution. It is essential for the PDT and vertical team to meet regularly and align expectations.

a. Annual In-Progress Reviews (IPRs): At least annually, the full multi-disciplinary PDT, including partners and stakeholders, is expected to participate in vertical team IPR meetings and/or milestones, along with the Agency Technical Review (ATR) team lead, Planning Center of Expertise representatives (if applicable), MSC quality assurance and policy reviewers, the RIT and OWPR policy review team members. These IPRs will offer an opportunity to discuss the study status to date, obtain vertical team alignment on decisions and any draft recommendations that would require additional USACE action, and reaffirm the overall course and direction of the study. The decision maker for IPRs is the District Planning Chief (see Table 1). Submittal requirements are listed in Appendix C. The requirement for an annual status update applies when USACE is a non-lead participant in a watershed study.

b. Study Milestones: There are three milestones in single-phase watershed planning: the Shared Vision, Recommendations, and Final Report (see Figure 1). Decision-making authority for watershed study milestones is delegated from HQUSACE to MSCs, as outlined in Table 1.

Table 1  
Decision-Making Authority for Watershed Milestones

Ongoing	Watershed Study Milestone*	Decision-Making Delegation
<b>Vertical Team Engagement</b>	Annual IPRs	District Planning Chief
	Shared Vision Milestone	MSC Planning & Policy Chief
	Recommendations Milestone	MSC Planning & Policy Chief
	Final Report Milestone (Watershed Management Plan)	MSC Commander

\*Required milestone read-ahead materials are listed in Appendix B.

14. Shared Vision Milestone. The purpose of the Shared Vision Milestone is to define the overall shared vision for the watershed, water, and related resources as developed by the partners and stakeholders involved in the watershed study, and to present the coordinated Study Framework and associated activities that clearly support the shared vision. It is an opportunity for the vertical team to weigh in on the purpose of the study and the established scope, schedule, and budget as informed by the shared vision process.

a. Typical USACE activities in preparation for the Shared Vision Milestone:

- (1) Assemble a PDT that includes participation with partners and stakeholders.
- (2) Define the study area with partners and stakeholders to capture impacts and influences of broadly identified problems and opportunities.
- (3) Work with partners and stakeholders including local, state, and federal agencies; tribes; and the public; to develop a concise Study Vision Statement.
- (4) Develop broad study goals and objectives that capture the breadth of interests to be served.
- (5) Document partner and stakeholder support and concurrence on the shared vision from federal and non-federal partners. Documentation of cooperation and coordination activities with required federal agencies (Departments of Interior, Commerce, Agriculture, and the Environmental Protection Agency) should be provided, even if these agencies have declined to participate.
- (6) Develop a Study Framework identifying the roles and responsibilities of USACE and its partners, with associated tasks that will advance the shared vision. In the Study Framework, describe how these tasks incrementally contribute to the shared vision.
- (7) Consider how various agency authorities may be combined to align and prioritize future water resources actions within the watershed.

b. Shared Vision Meeting: A Shared Vision Milestone meeting will be held with the vertical team once the typical activities and key products (listed below) have been completed. The PDT should reach the Shared Vision Milestone within 9 to 12 months from execution of the cost-sharing agreement. The Shared Vision Milestone will replace the annual IPR in the year it is conducted. Submittal requirements for the Shared Vision Milestone are listed in Appendix C.

(1) Two read-ahead products unique to watershed plans are the Shared Vision Statement and Study Framework.

(a) Shared Vision Statement: This statement will be developed through close coordination with partners and stakeholders and will be broad enough to encompass various goals and objectives of individual partners and stakeholders, with a sufficiently detailed description to allow for subsequent development of specific planning objectives and associated metrics. The Shared Vision Statement will be the basis for establishing the Study Framework.

(b) Study Framework: This framework will identify the roles and responsibilities of each partner in the watershed study, designating which entity will perform certain tasks and how the tasks will move the study closer to achieving the shared vision. This framework will also clearly identify the role that USACE will serve during the study. Execution of the tasks identified in the framework will inform the watershed study.

(2) One of the decision outcomes of the Shared Vision Milestone will be a determination by the vertical team as to whether there is USACE interest in continuing with the study as proposed; specifically, with completing the tasks in the Study Framework in preparation of a draft and final watershed plan. The framework will be used as a reference point for any changes to the agreed-upon path as the study continues. Changes in USACE participation will require documentation consistent with the IPR Memorandum For Record (MFR) process in Appendix B of this document.

(3) Any amendments to the PMP and/or cost-share agreement will be discussed at the Shared Vision Milestone meeting to validate vertical team alignment with the PDT and non-federal interests on the remaining scope of investigations, specifically time and funding necessary to complete the study. The MSC Planning and Policy Chief will determine whether continued USACE involvement beyond the Shared Vision Milestone is warranted. This decision will be based on the information provided in the Study Framework, which should clearly identify the role that USACE will serve during the study and the need for federal involvement in addressing the identified problems.

(4) An MFR will be prepared by the District Planning Chief to memorialize the decisions made in the Shared Vision Milestone meeting. The MFR will be signed by the MSC Planning and Policy Chief and transmitted to the RIT for information. The MFR will include a study schedule and funding stream to complete the draft and final watershed plans.

15. Recommendations Milestone. Following successful completion of the Shared Vision Milestone, the PDT will complete the tasks identified in the Study Framework that inform the watershed study. When sufficient analysis has been conducted to develop recommendations, a Recommendations Milestone will be held. The purpose of the Recommendations Milestone is to

ensure vertical team concurrence on recommended strategies that meet the study goals and objectives and shared vision. The Recommendations Milestone will replace the annual IPR in the year it is conducted.

a. Typical USACE activities to be completed before the Recommendations Milestone:

(1) Identify the hydrologic unit study area as defined by the United States Geological Survey Hydrologic Units Codes).

(2) Investigate the problems, needs, and opportunities of a watershed, which may include but are not limited to flood risk management, ecosystem restoration, water quality, water supply, drought preparedness, recreation, and navigation.

(3) Research historic and current conditions and uses of the watershed.

(4) Develop a qualitative assessment of the cumulative effects of various activities in the watershed.

(5) Determine the likely future conditions and potential future changes/initiatives in the watershed based upon proposed activities and development, including the identification of resource uses, needs, and conflicts.

(6) Evaluate alternative uses of the resources including the positive and negative effects on economic development, the environment, and social well-being based upon factual scientific, social, and economic information.

(7) Prioritize water and land-related resource problems and opportunities.

(8) Identify and evaluate conflicting uses with monetary and non-monetary tradeoffs.

(9) Work with stakeholders to collectively develop possible project measures for recommended future activities.

(10) Complete a qualitative assessment of the cumulative effects of various activities in the watershed.

(11) Work with stakeholders to collectively determine actions to recommend in a watershed study/watershed plan.

(12) Complete a qualitative assessment of alternative/strategy costs, benefits, and potential environmental impacts of any recommended activities.

(13) Use a decision framework and stakeholder involvement to justify recommendations and to explain how recommended activities would systematically improve integrity of the watershed and advance the shared vision, including consideration of risks and uncertainties.

(14) Determine the strategic roadmap for implementing activities, programs, or construction activities associated with expected outcomes, identify which agencies are best suited for accomplishing such activities, and provide letters with general statements of support from these agencies.

(15) Qualitatively describe how the strategic roadmap and recommendations are addressing the overall federal interest from the perspective of federal agencies, and why involvement by the federal government is warranted, given risk and uncertainty.

(16) Report the findings of these analyses through preparation of a watershed study/watershed plan.

(17) Pursue any studies, projects, or programs for which USACE has authority under normal budget development process (subject to specific authorities, analysis, or decision-making processes).

b. Recommendations Milestone Meeting: At the Recommendations Milestone meeting, the MSC Planning and Policy Chief will make the determination whether or not to endorse the recommendations and the proposed way forward to complete the final watershed study. This vertical team engagement prior to the release of the Draft Watershed Plan for public review will ensure alignment with USACE policies and inform USACE communications with external agencies. Submittal requirements for the Recommendations Milestone are listed in Appendix C.

c. Draft Watershed Plan.

(1) Within 60 days of a successful Recommendations Milestone, a report documenting the findings of the analyses will be developed and released. In most cases, a Draft Watershed Plan will describe the problems, opportunities, objectives, constraints, watershed goals and how the recommended alternatives and/or strategies advance the shared vision. A description of the data, models, or other information that were used to support the inventory and forecast should be provided, along with evaluation and comparison of alternatives. A description of how this study provided value to the nation should also be provided, describing the unique characteristics or outcomes of the study and how this information can be used to inform future investment decisions, management, and planning efforts in the watershed.

(2) Watershed plans should identify actions to be undertaken by the various partners and stakeholders to meet the objectives of the study. The planning document may or may not recommend further USACE studies, projects, or programs. Budgetary priority for watershed plans will not be based upon the potential for future USACE projects.

(3) The Draft Watershed Plan report will provide information that assists in the understanding of the relationships between potential next steps and water resources priorities for the watershed. The information is intended to provide partners and other decision makers with a risk-informed understanding of actions that could be taken, accounting for study risks, implementation risks and potential outcome risks associated with the performance of any future projects, to the extent this information is known.

(a) In preparing the report, consider the following, in addition to future use of the report:

- Provide a meaningful report to inform multiple audiences and decision makers at all levels of government, local, state, and federal, including HQUSACE, the Assistant Secretary of the Army for Civil Works (ASA(CW)), and Congress.
- Provide a strategic roadmap, acknowledging risk and uncertainty that identifies recommended phases of implementation for greatest success to inform future investment decisions by multiple agencies.
- Describe why this study warrants future federal engagement. How can federal agencies help overcome institutional barriers and solve technical problems?
- Describe how problems can be solved across multiple agencies.

(b) Disclaimer Language:

- The draft and final watershed plans will include the following disclaimer: “The information presented in this report is to provide a strategic framework of potential options to address problems within the [insert name of river] River of the [insert name of watershed] watershed. Options identified will follow normal authorization and budgetary processes of the appropriate agencies. Any costs presented are rough order magnitude estimates used for screening purposes only.”

d. District Quality Control (DQC): DQC will be conducted on technical products during their development, and ATR will be conducted after their development, to ensure the quality and credibility of the scientific information. The DQC will be completed prior to the Recommendations Milestone meeting, as will any ATR on technical products, models, or analyses that are particularly complex and would benefit from a technical review prior to other reviews (public, policy, etc.). Situations may arise, however, where complex technical analyses or novel scientific methods would benefit from a review by external experts including other partnering agencies. Such external peer review is not considered Type I Independent External Peer Review.

## 16. Report Milestone.

a. Draft Watershed Plan: When the Draft Watershed Plan is complete, it will be released for a 30-day (minimum) concurrent public, ATR, policy, and legal compliance review period, including review by the federal and non-federal partners. The policy review team, identified through the collaboration of the MSC Chief of Planning and Policy and the HQUSACE Chief of OWPR, and documented in the RP, will draw from HQUSACE, the MSC, the Planning Centers of Expertise, and other review resources as needed. The purpose of the policy review is to ascertain that appropriate considerations have been made and that study conclusions are consistent with overall USACE policy.

(1) Per the authorizing language of Section 729 of WRDA 1986, watershed plans should be carried out in cooperation and coordination with the Secretary of the Interior; the Secretary of Agriculture; the Secretary of Commerce; the Administrator of the Environmental Protection Agency; and the heads of other appropriate agencies; and in consultation with federal, tribal,

state, interstate, and local governmental entities. Specifically authorized watershed plans may have other requirements.

(2) The “public” identified for public review may vary from study to study, but at a minimum it should include the members of these partnering government agencies, as appropriate. Once the review period has closed and the PDT has adequately addressed the comments, any changes will be incorporated into the Final Watershed Plan. Submittal requirements for the Draft Watershed Plan are listed in Appendix C.

b. Final Watershed Plan.

(1) Once the watershed study has been updated to reflect comments received and addressed after the concurrent review period, the District Commander will submit the Final Watershed Plan to the MSC Planning and Policy Chief to request approval from the Division Commander, and send an informational copy to the appropriate RIT. The review manager will complete the policy review process with a Documentation of Review Findings, which will accompany the final watershed study package for approval by the Division Commander. Submittal requirements for the Final Watershed Plan, transmitted to the MSC, are listed in Appendix C.

(2) Once the final watershed study is approved by the Division Commander, the MSC will transmit the package to the RIT. At that time, the RIT will draft a transmittal memorandum with a summary of the key findings from the Director of Civil Works to the ASA(CW) for information, route the transmittal memo and required enclosures through the Director of Civil Works to the ASA(CW) for transmittal to Congress for information in response to the study authority and to the Office of Management and Budget if required for budgetary consideration. (The PMP will include a provision for this coordination with ASA(CW) staff, similar to the processing of a Director’s Report.) Submittal requirements for the Final Watershed Plan transmitted to HQUSACE and ASA(CW) are listed in Appendix C.

17. Considerations for Additional Study Recommendations. Section 729 of WRDA 1986 does not provide authority for feasibility studies, but there may be cases where feasibility study authority already exists for the study area of interest. If a study authority does not exist, then the non-federal interest may submit a proposal for study authority to be included in the Section 7001 of WRDA 2014, as amended, Annual Report on Future Development of Water Resources. A feasibility study resulting from a watershed study will compete as a new start study.

18. Reporting Requirements for USACE as a Participating Agency. A final report must be prepared documenting the USACE role as a participant in the watershed study. At a minimum, the content of the final report will include a summary of the work completed, including further project specific studies, if identified, and a summary of expenditures (non-federal and federal costs). The report may take the form of a letter report; however, the form of final reports is expected to vary depending on the level of USACE involvement as a participating agency.

a. **Final Report:** A final report must be prepared documenting the USACE role in coordination with other interests during the watershed study, recommendations for actions that can be taken to solve the identified problems, the sequencing of priorities, and identification of proposed responsible parties to implement the recommendations of the strategic roadmap, including potential USACE actions.

b. **Completion Report:** The report and supporting documents will be transmitted to the RIT for final processing. The final report is not reviewed by HQUSACE but is provided for informational purposes only and will be sent to the ASA(CW) with the memorandum notifying the Secretary of the completion of USACE participation in the watershed study. The transmittal package must include an endorsement from the MSC of the final report conclusions and recommendations, along with the final report.

c. **ASA(CW) Notification:** The RIT will prepare a memorandum for the Director of Civil Works to transmit the final report to the ASA(CW).

19. **Project Closeout.** Within 10 days of completion, the District will initiate development of an estimate of the current cost-sharing balance, along with a study specific plan to accomplish fiscal closeout for approval. The District PDT will coordinate with the District Programs office to perform final accounting to ensure final balance of the cost share consistent with the cost-sharing agreement with the sponsor. The MSC office will facilitate revocation of existing funds, adjustments in budget requests, and/or possible study reclassification. The District PDT will coordinate with the District Programs office to perform final accounting to ensure final balance of the cost share consistent with the cost-sharing agreement with the sponsor. After final accounting is completed, all remaining funds will be returned to HQUSACE.

20. **Additional Reporting Requirements.** Each RIT will provide, by 5 August of each year, the status of all its watershed plans to the Corps of Engineers Civil Works, Planning and Policy Division (CECW-P), as required by Section 905 of WRDA 1986, as amended by Section 1002 of WRRDA 2014. CECW-P will compile and provide a comprehensive status list, including plans recommending no further federal action, to the ASA(CW) by 30 August each year for submittal to the Committee on Environment and Public Works of the Senate and Committee on Transportation and Infrastructure of the House of Representatives.

21. **Termination of a Watershed Plan.** A watershed study will be terminated if the study has not received federal appropriations during the last 5 full fiscal years unless the non-federal sponsor provides contributed funds to complete the study. The contributed funds must match a usable capability request. When the District Commander determines that a watershed study does not meet the definition of an active study under the current Budget Engineering Circular, the study will be terminated, and the District will follow the termination notification process provided below.

22. **Termination Notification Process.** Once the decision is made to terminate a study, only funding to facilitate an orderly closeout and termination is allowed. While the particular study effort is terminated, the underlying study authorization remains. It is the District's responsibility to communicate to the vertical team that the study is terminated. See paragraph 18 for fiscal closeout process, which is the same as for completion.

23. Termination Package. The content of the final termination memo will include reasons for termination of the study and a summary of expenditures (non-federal and federal costs).

a. Transmittal package must include:

(1) District Termination memorandum;

(2) Documentation of public notice or Federal Register Notice (if applicable); and

(3) Copies of signed, dated letters of notification that were sent to the non-federal sponsor, congressional members, and any stakeholders.

b. Notification Process. Upon signing the termination memorandum, the District Commander will follow the procedures below to complete the study termination process:

(1) Internal Notification: The District Commander will notify, the MSC, HQUSACE, and the ASA(CW) within 2 days of the termination memo being signed. The notification will include a copy of the termination memo. This notification must proceed notification of the non-federal sponsor, congressional members, stakeholders or issuance of a public notice.

(2) Public Notification: Upon confirmation of internal notifications being completed the District Commander shall notify the non-federal sponsor, congressional delegation and appropriate stakeholders in writing within 5 days. The District Commander can issue any required public notices at this time. The notice of termination will be posted on the District's external webpage.

(3) Final Termination Packet: Within 30 days of the signing of the termination memo the District Commander will submit to the MSC Commander a final termination packet as described in paragraph a. above.

(4) Upon completion of the notification process, USACE will complete study closeout as described in paragraph 18.

c. The termination package is not reviewed by HQUSACE but is provided for informational purposes only and will be sent to the ASA(CW) with the memorandum notifying the Secretary of the termination of USACE participation in the watershed study.

24. Implementation. This guidance is effective immediately and will be applied to all USACE watershed planning activities, which should embrace the principles and intent of this guidance to the fullest degree possible.

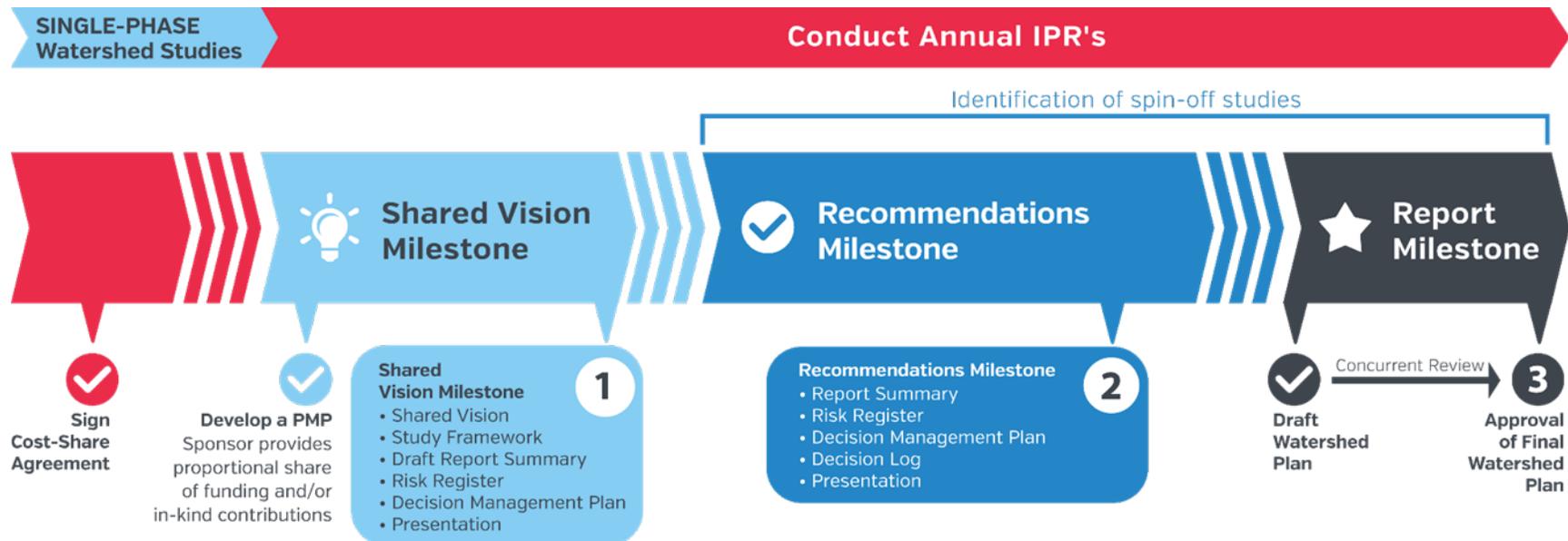


Figure 1. Watershed Study Milestones

## Appendix A References

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Appendix B  
Submittal Requirements

Read-Ahead Materials. The required read-ahead materials for all IPRs and study milestones are the report summary and the draft presentation slides. Final presentation slides are not expected to be submitted ahead of the milestone meeting. Though the risk register, decision log, and decision management plan are not required to be submitted as read-ahead materials, it is assumed that these tools are being utilized to inform the report summary and risk and uncertainty discussion at the milestone meetings and can be provided to the vertical team upon request.

Read-ahead materials will be provided to the MSC and RIT Planner no later than 1 week prior to the milestone meetings. Read-ahead material is informational for the decision maker and will not be reviewed for the purposes of requiring revisions or comment and responses.

PRODUCT	DESCRIPTION
<b>Annual In-Progress Review Products</b>	
<b>Briefing Slides</b>	The PDT will include summary information on the budget expended and proposed Study Framework budget and schedule needed for study completion in the briefing slides and at the IPR.
<b>Memorandum for Record</b>	An MFR (with attached decision log, if necessary) will be prepared by the District Planning Chief to memorialize the decisions made at each IPR or milestone meeting regarding scope, schedule and budget, and any policy considerations or issues resolved. These decisions will also be recorded in the decision log. The MFR will be transmitted through the MSC Planning and Policy Chief to the RIT for information. The MFR will include a study schedule and funding stream to complete the draft and final watershed plans.
<b>Shared Vision Milestone Products</b>	
<b>Shared Vision Statement</b>	This is defined as a collaborative effort involving the partner(s) and other stakeholders.
<b>Study Framework</b>	This identifies and documents the roles and responsibilities of each partner in the study, outlines the major tasks and activities each agency will undertake, and specifically addresses whether USACE will play a lead or supporting role.
<b>Draft Report Summary</b>	The Report Summary should include: <ol style="list-style-type: none"> <li>1) Shared Vision Statement.</li> <li>2) At least one watershed-scale iteration of the six-step planning process described earlier, with goals that align with the shared vision, and established problems, opportunities, objectives, and constraints.</li> <li>3) Baseline conditions and future without-project forecasts utilizing existing data.</li> <li>4) Data, tool, and model inventory, assessment, and gap analysis.</li> <li>5) Confirmation of continued USACE participation in the watershed and future direction of the study.</li> </ol>
<b>Presentation</b>	This presentation should summarize concisely the Shared Vision Statement, Study Framework, problems, opportunities, objectives, and constraints; a brief summary of historic, existing, and future without-project conditions; data inventory and analysis; and a recommendation on whether USACE should continue with the watershed study.

<b>Recommendations Milestone Products</b>	
<b>Draft Report Summary</b>	The Report Summary describes the important elements of the planning work completed to this point of the study. The summary highlights key areas of uncertainty and how it has been addressed in order to manage study risks. The summary documents the rationale for PDT decisions and is a living document intended to follow the study through the duration of the planning process.
<b>Presentation</b>	This presentation should summarize concisely the Shared Vision Statement; progress on/ status of the Study Framework; problems, opportunities, objectives, and constraints; a brief summary of historic, existing, and future without-project conditions; an overview of the planning process to include development of measures and alternatives or strategies, the screening process and evaluation criteria, evaluation and comparison of alternatives or strategies with a description of tradeoffs, and the selected strategies.
<b>IPR and Milestone Products to Be Provided Upon Request</b>	
<b>Risk Register</b>	This is an important tool for identifying and managing study risks, allowing the vertical team to make decisions on how those risks are to be managed.
<b>Decision Management Plan (DMP)</b>	This is a strategic document that describes the work that will be done by the PDT in reaching the next significant planning decision. Vertical team concurrence is vital. Each DMP clearly describes how decision information will be used in the planning process before the work is actually completed.
<b>Decision Log</b>	This is a tool to document major decisions made through the planning process. Vertical team members must sign or initial (digital signatures or emails are acceptable) the Decision Log before an IPR or Milestone is concluded.
<b>RP</b>	The RP describes the scope of review for the watershed study and is a component of the Quality Management Plan in the PMP.
<b>Public Involvement Plan</b>	The public involvement plan documents an effective public involvement strategy as an integral part of the planning process.

Appendix C

Submittal Requirements for the Watershed Planning Process							
	Annual IPRs	Shared Vision	Recommendations	Draft Report	Final Report (to MSC)	Final Report (to HQ)	Final Report (to ASA)
<b>Product</b>							
Briefing Slides	X	X	X				
Memorandum for Record	X	X	X				
Shared Vision Statement		X	X				
Study Framework		X	X				
Report Summary		X	X				
Presentation		X	X				
Transmittal memo to the Division Commander				X			
Draft Watershed Management Plan				X			
Final (approved) Review Plan				X			
Letters of support from federal agencies that have a part in the recommended action				X	X	X	X
Documentation of Coordination with other Federal Agencies					X	X	X
Final Watershed Management Plan					X	X	X
Copies of the ATR, Policy and Legal certification and Policy Review					X	X	X
Transmittal memo to the RIT, signed by the MSC Commander						X	
Draft transmittal (to ASA-CW) letter (for use by RIT)						X	
Draft Congressional notification letters (for use by RIT and ASA-CW)						X	X
Transmittal memo from HQUSACE to ASA(CW)							X
Summary of key findings and overall value of the study to the watershed and the stakeholders, including a clear description of the federal interest							X
Draft transmittal letters addressed to the House T&I and Senate E&W committees (for use by ASA-CW)							X

<b>Upon Request:</b>
Risk Register
Decision Management Plan
Decision Log
Review Plan
Public Involvement Plan
*Presentation (upon request by ASA-CW)