



Kansas River Reservoirs Flood and Sediment Study (Watershed Study)

Advisory Committee Meeting

August 26, 2019



**US Army Corps
of Engineers.**





Items for Discussion

- Advisory Committee
- Study Background
- USACE Watershed Planning Guidance
- Watershed Study Process
- Shared Vision
- Study Scope
- Issues and Opportunities
- Goals and Objectives
- Strategies/Alternatives Development
- Outreach and Public Involvement
- Study Outcomes
- Schedule



Advisory Committee

- Represents diverse interests and stakeholders across the Kansas River Basin
- Members are knowledgeable of and can collaborate on issues in the Kansas River Basin and can communicate issues to various high level groups that will support recommendations
- Ensures that the values of stakeholders and the public are incorporated into the study
- Assist with development of a Shared Vision and a comprehensive plan for the Kansas River Basin
- Assist with development of strategies/alternatives that will consider the various interests affected by study recommendations



Study Background

- Watershed Study authorized under Section 729 of the Water Resources Development Act of 1986, as amended
- Feasibility Cost Share Agreement signed March 2019
- Collaborative effort between the USACE and the State of Kansas including the Kansas Water Office and the Kansas Department of Wildlife, Parks and Tourism
- Comprehensive and holistic long-term (50-100 years) plan for addressing the multiple water resource problems within the Kansas River Basin



USACE Watershed Planning Guidance

- USACE Engineering Circular 1105-2-411 and Planning Bulletin No. PB2019-01
- Watershed studies use an Integrated Water Resource Management strategy
 - Provides a holistic focus on water resource challenges and opportunities that reflect coordinated management of water resources
- Principles include:
 - Focused attention on multiple objectives and tradeoffs
 - Better accounting for uncertainty
 - Accommodating the concepts of adaptive management, stakeholder collaboration, and systems analysis for watershed-scale planning and evaluation



USACE Watershed Planning Guidance

- SMART (specific, measurable, attainable, risk-informed, timely) planning principles
- Key components of an effective watershed planning process (interactive six-step USACE planning process)
 1. Identify Problems and Opportunities
 2. Inventory and Forecasting
 3. Identify and Screen Measures
 4. Formulate Initial Array of Strategies/Alternatives
 5. Refine Initial Array of Strategies/Alternatives and Evaluate Focused Array of Strategies/Alternatives
 6. Strategy/Alternative Comparison and Selection

Watershed Study Process

**SINGLE-PHASE
Watershed Studies**

Conduct Annual IPR's

Identification of spin-off studies



**Shared Vision
Milestone**



**Recommendations
Milestone**



**Report
Milestone**



**Sign
Cost-Share
Agreement**



Develop a PMP
Sponsor provides
proportional share
of funding and/or
in-kind contributions

**Shared
Vision
Milestone**

- Shared Vision
- Study Framework
- Draft Report Summary
- Risk Register
- Decision Management Plan
- Presentation

1

Recommendations Milestone

- Report Summary
- Risk Register
- Decision Management Plan
- Decision Log
- Presentation

2



**Draft
Watershed
Plan**

Concurrent Review

3

**Approval
of Final
Watershed
Plan**



Shared Vision

- Broad enough to encompass various goals and objectives of individual partners and stakeholders
- Basis for development of goals and objectives
- Identifies study area or geographic focus areas to capture impacts and influences of broadly-identified issues and opportunities
- Develop a comprehensive long-term plan for addressing flood risk management, sediment loading of reservoirs, reduction of flood storage and water supply availability, water quality issues, and drought



Study Scope

- Comprehensive and strategic evaluation of the Kansas River Basin:
 - System operating plan
 - Reservoir operations and manuals
 - Reservoir facilities and features
 - Conditions upstream and downstream of reservoirs
 - Infrastructure
 - Other related needs
- Includes a comprehensive existing and future conditions update of:
 - Flood risk
 - Drought risk and preparedness
 - Ecosystem degradation
 - Water supply availability and sustainment



Issues and Opportunities

- The federal reservoirs and levees in the Kansas River Basin are now being asked to meet the multipurpose needs and values of today's modern society, including:
 - An increased demand for flood risk management benefits to large and small communities, recreation facilities, agricultural areas
 - An increased demand on water supply, under a changing climate
- Necessary to investigate the existing system to optimize its operation and functionality where possible, and to repair, rehabilitate, or upgrade the facilities to account for the demand and need for integrated water resources management
- Without intentional actions, threats to these crucial benefits could diminish impeding the ability to maintain the function of the existing system



Issues and Opportunities

- The study will focus on 3 primary focus areas:
 - Flood risk management
 - Sediment management
 - Reservoir operations (e.g. Conditions that influence storage in the various pools and affect the ability to meet releases for uses downstream)
- Also looking at opportunities related to:
 - Infrastructure investment
 - Water supply availability and sustainment
 - Water quality
 - Recreation
 - Ecosystem preservation and restoration



Planning Goals

- Reduce the risk to public safety from flooding in the Kansas River Basin
- Reduce the risk of damages from flooding to residential, agricultural, commercial/industrial areas, utilities, and to roads and other critical infrastructure
- Extending the useful life of Kansas reservoirs, with focus on those reservoirs most impacted by sediment and nutrient loading
- Improve and protect the Kansas River ecosystem
- Identify potential “spin-off” and “off-shoot” projects that may fall under appropriate Federal, State, and/or local authorities



Planning Objectives

- Manage sedimentation in reservoirs to reduce loss of volume and decrease the sedimentation rates for sustainment of authorized purposed and benefits
- Reduce risks to life safety in the Kansas River Basin with a focus on improved flood risk system flexibility under a variety of climate change and land use development patterns
- Reduce both societal consequences and economic damages associated with flood risk in the study area, with an emphasis on improving system resiliency and increasing the long-term integrity of the flood system
- Increase the reliability and availability of water supply
- In conjunction with flood risk management and increasing the reliability and availability of water supply, improve the natural dynamic hydrologic and geomorphic processes in the Kansas River and its tributaries
- Increase the adaptability and resiliency of the water supply, flood risk management, and ecological systems of the Kansas River Basin in relation to climate change



Strategies/Alternatives

- Strategies/alternatives will be developed to address one or more of the planning objectives and will fall under one of the primary focus areas (i.e. sediment management, reservoir operations, and flood risk management)
- Additional consideration of water supply availability and sustainment, infrastructure investment, ecosystem preservation and restoration, water quality, and recreation
- Strategies/alternatives will be assessed for:
 - Completeness – the extent to which a given strategy/alternative provides and accounts for all necessary investments or other actions to ensure the realization of the planned effects
 - Effectiveness – the extent to which a strategy/alternative alleviates the specified problems and achieves the specified opportunities
 - Efficiency – the extent to which a strategy/alternative is the most cost-effective means of alleviating the specified problems and realizing the specified opportunities, consistent with the Nation's environment
 - Acceptability – the workability and viability of a strategy/alternative with respect to acceptance by federal and non-federal entities and the public and compatibility with existing laws, regulations, and public policies



Strategies/Alternatives

- Strategies/alternatives considered would include those necessary to reduce vulnerability and create resiliency of the existing system to ensure safety of communities and to meet the needs of Kansas
- Measures considered could improve reliability of the system and include:
 - Structural restoration
 - Sediment removal
 - Reservoir operational changes
 - Sediment removal using innovative technologies
 - Demand management
 - Reallocation
 - Extreme event (i.e. flooding and drought) planning
 - Watershed management



Outreach and Public Involvement

- Goal is to inform, educate, and provide an opportunity for a diverse set of stakeholders to provide input and reflect a range of different perspectives
- Diverse group of interests in the basin to include:
 - Municipal and water supply customers
 - Communities/adjacent residents, occupants, and landowners
 - Business and industry
 - Landowners
 - Agricultural interests
 - Recreation interests
 - Environmental interests
- Government officials and agencies will also be informed and engaged



Outreach and Public Involvement

- Involvement Methods
 - Non-federal Sponsor Meetings
 - Interactive working meetings; informal discussions of issues and project information
- Small Group Meetings
 - Focused on certain issues and interests
 - Gain input on needs and desires of stakeholders
 - Open dialogue; informal facilitation of discussion of stakeholder views and input
- Briefings to Key Decision Makers
 - As needed or at strategic decision points to update key decision makers on the Watershed Study status
 - Briefings/presentation followed by facilitate question-and-answer session
- Agency/Commission Meetings
 - Regional Advisory Committees, Kansas Water Authority, Water Assurance Districts
 - Encourages cooperative consultation with key agencies and/or affiliated commissions
 - Ensures regulatory and technical requirements are satisfied for the Watershed Study
 - Briefing/presentation followed by facilitated discussion of stakeholder views



Outreach and Public Involvement

- Involvement Methods
 - Community Briefings
 - Provide updates on study status and the planning process
 - Allows community the opportunity to provide meaningful input
 - Smaller and more focused than public meetings
 - Briefing/presentation followed by facilitated discussion of stakeholder views
 - Public Meetings/Open House
 - 2 public meetings planned during the first phase (Shared Vision) of the Watershed Study to begin scoping and refining study goals and objectives and to collect information of existing conditions
 - 2 public meetings/hearings planned following development of strategies/alternatives and recommendations to present the results of the study process and seek information related to stakeholder and public viewpoints
 - Formal presentation followed by facilitated discussion followed by open house format with opportunity for one-on-one discussions
 - Social Media, Public Notices, and Study Website



Study Outcomes

- Provides recommendations for actions that can be taken to solve the identified problems
- Broad implications for decision makers at all levels of government
- Provides a strategic roadmap that identifies the sequencing of priorities, including where federal authorities and appropriations are available, and where new ones are needed
- Presents the findings and recommendations for future efforts, including potential future projects and studies that could be conducted by the USACE, State of Kansas, sister agencies, and other non-federal entities both near-term and long-term
- Not a project implementation document



Schedule

- **Shared Vision Milestone**

- May 1 – September 23, 2019 – PMP Development and Approval (to include goals, objectives, and Shared Vision Statement and a communications plan)
- May 1, 2019 – April 30, 2020 – Review Plan Development and Approval
- July 2019 – April 2020 – Initial Baseline and Existing Conditions
- September 2019 – January 2020 – Initial Round of Stakeholder Coordination and Public Outreach Meetings
- October 2019 – April 2020 – Identify Conceptual Measures/Alternatives
- October 2019 – June 2020 – Screen Conceptual Measures/Alternative
- June 2020 – July 2020 – Preparation of Study Summary Document
- November 2020 – Shared Vision Milestone Meeting

- **Recommendations Milestone**

- December 2020 – May 2023 – Watershed Study Recommendations
- May 2023 – Recommendations Milestone Meeting

- **Final Watershed Study Report**

- June 2023 – December 2023 – Final Watershed Study Report Preparation
- Fall 2023 – Final Watershed Study Report Milestone Meeting