Appendix I. Agency Coordination and Public Involvement

Kansas River Reservoirs Flood and Sediment Study
Draft Watershed Study Report

October 2023

U.S. Army Corps of Engineers
Kansas City District

PUBLIC SCOPING MEETINGS

KANSAS
River Reservoirs Flood and Sediment
STUDY

Kansas River Reservoirs Flood and Sediment Study
Public Scoping Meetings Summary

January 2020

Kansas Water Office

Kansas Department of Wildlife, Parks and Tourism

US Army Corps of Engineers ®
Kansas City District

Overview

The Kansas River Reservoirs Flood and Sediment Study (Watershed Study) is a collaborative effort between the U.S. Army Corps of Engineers (USACE) and the State of Kansas including the Kansas Water Office (KWO) and the Kansas Department of Wildlife, Parks and Tourism (KDWPT).

The Kansas River is an important resource for the State of Kansas. The Kansas River begins at the confluence of the Republican and Smoky Hill Rivers near Junction City and flows 173 miles to Kansas City, where it joins the Missouri River. The Kansas River Basin drains almost the entire northern half of Kansas, as well as part of Nebraska and Colorado (60,580 square miles in all). There are roughly 640 freshwater stream miles below all major dams, and approximately 100,000 acres of federally-owned freshwater impoundments, including USACE and U.S. Bureau of Reclamation (USBR) reservoirs, in the Kansas River Basin. It serves as a critical drinking water supply for more than 600,000 people in addition to being used for irrigation, municipal wastewater and industrial discharges, power generation, and as a source of commercial sand and gravel. In addition to flood risk reduction benefits from the reservoirs (more than $22B in flood damages prevented in the basin since construction through 2018), there are several federal levee projects located on the banks of the Kansas River that provide flood risk reduction benefits ($2M in flood damages prevented in the basin since construction through 2018), mainly to larger urban areas such as Topeka and Kansas City, Kansas. Additionally, recreation use in the Kansas River Basin (boating, kayaking, camping, picnicking, fishing, swimming, hunting, wildlife viewing, etc.) provides substantial benefits to the local, regional, and national economy.

The USACE, KWO, and KDWPT conducted public scoping meetings as a part of scoping for the Watershed Study on December 2 through December 12, 2019. A news release was issued on November 22, 2019 notifying the public of the upcoming meetings dates and locations and that public input was sought for the watershed study (Attachment 1). Invitations were also sent out to various interested stakeholder groups and appropriate U.S. and State Congressional members. A total of 62 people attended the four meetings (Manhattan – 14 attendees; Ellsworth – 12 attendees; Junction City – 19 attendees; Perry – 17 attendees). The information obtained from the public scoping meetings will be used to inform and refine the watershed study goals and objective and to help identify issues and opportunities.

Meetings Purpose and Format

The purpose of the public scoping meetings was to gather and exchange information and to hear specific ideas, concerns, and opinions from the public across the Kansas River Basin and to ensure that the values the public are incorporated into the watershed study.

The format of each meeting was open-house style, come-and-go. Four public meeting were held across the Kansas River Basin as follows:

- December 2, 2019 - 6:30-8:30 p.m. – Manhattan Fire Department, 2000 Denison Ave, Manhattan, KS 66502
- December 5, 2019 – 6:30-8:30 p.m. – American Legion Post 174, 645 W 15th St, Ellsworth, KS 67439
- December 10, 2019 – 6:30-8:30 p.m. – Geary County Senior Citizens Center, 1107 S. Spring Valley Rd, Junction City, KS 66441
- December 12, 2019 – 6:30-8:30 p.m. – Perry Lecompton High School, 404 Lecompton Rd, Perry, KS 66073

A brief presentation was given at the beginning of each meeting discussing the study background, Kansas River Basin facts, problems in the basin, the Shared Vision Statement, opportunities, study scope, study

focus areas, potential strategies/alternatives, outreach and public involvement, study outcomes, and the study timeline.

Various information stations with poster boards and banners (Attachment 1) were available for attendees to view. Poster boards and banners included information related to study background, Kansas River Basin facts, problems in the basin, the Shared Vision Statement, opportunities, study scope, study focus areas, potential strategies/alternatives, outreach and public involvement, study outcomes, and the study timeline. Staff from the study partners were available at the various information stations to answer questions and provide additional information to meeting attendees. Handouts were also available for attendees, including a study brochure and Kansas River Basin maps.

The public was encouraged to submit comments through various ways, including:

- Kansas Water Office, Attn: Josh Olson, 900 SW Jackson Street, Suite 404, Topeka, Kansas 66612
- Sent electronically by e-mail to kwo-info@kwo.ks.gov
- Submitted on the website at https://kwo.ks.gov/projects/kansas-watershed-study

Comment forms and a computer with the study website were also available at the comment station for attendees to submit a comment during the meeting.

Additional correspondence may be submitted throughout the watershed study using the same ways discussed above. This correspondence will also become a part of the official record for the study and will be reviewed and considered during development of the watershed study.

Summary of Comments

Comments and study input was received by correspondence entered into the website comment form, comment forms submitted at the public meetings, and oral statements recorded on flip charts during the public meetings. A total of 29 correspondences have been received to date. Comments were reviewed and are summarized below in categories based on the issues or ideas stated in the comment. Original comments are included in Attachment 2.

Water Supply and Drought

Comments regarding water supply and drought covered a variety of concerns related to both water quantity and quality issues. One commenter speculated that both would become more critical over time, with concerns about future shortages also noted. A common theme was reallocation. The Kansas River Water Assurance District (KRWAD) and Kansas Regional Advisory Committee (RAC) both advised considering a reallocation from future use storage to water quality, with both specifically mentioning Milford and Perry Reservoirs and the Kansas RAC also including Tuttle Creek and Clinton Lakes. Conversely, commenters expressed support against reallocation at Wilson Lake, noting concerns about recreational impacts and desalinization (injection disposal).

A question was expressed regarding the value of drawdowns from Kansas reservoirs for the purpose of navigation in the Missouri River. Commenters wondered whether the cost to recreation and water supply in Kansas outweighed the navigational benefits. The Kansas RAC advised conducting an analysis to quantify the impacts and make an informed strategy. The Kansas RAC also stated a goal of exploring additional storage possibilities, either by constructing new reservoirs or rehabilitating existing watershed reservoirs, to help alleviate specific regional issues.

A continued concern with water supply at Russell was noted, involving both water quality and quantity. Big Creek specifically was mentioned, which discharges at Hays, and the commenter questioned if there was an opportunity related to filtration/ecosystems.

Sediment Management and Reservoir Sustainability

A variety of commenters expressed concerns about sediment reducing storage capacity and support for improving sediment management and reservoir sustainability. Upstream impacts were commonly cited as a focus with streambank erosion and agricultural practices mentioned as significant issues. Comments noted a need to engage landowners and create programs that would promote participation in streambank stabilization, improved agricultural practices (such as no-till), and preserving and restoring riparian forest buffers. The Kansas Forest Service was mentioned as a valuable resource for riparian forest issues specifically. Similarly, preservation and restoration of wetlands was also noted as an upstream action that should be further explored and would have reservoir sedimentation benefits.

The Kansas RAC recommended engaging local universities and technical advisors to address these sedimentation reduction strategies, as well as partnering with Nebraska and Colorado to ensure best management practices (BMPs) are being adopted throughout the entire basin. There was also a general desire expressed for greater public outreach and education, as well as a need to support legislators favorable to water policies and programs that address reservoir issues.

Support was expressed for the use of multiple sedimentation control and removal strategies to maintain reservoir storage capacity. One commenter noted the increasing liability of sedimentation and questioned if reservoir sediment could be mined and spread on fields to increase agricultural production, stating that such a strategy with multiple benefits (reducing sediment in reservoirs and increasing agricultural production) may help build interest in addressing sedimentation issues. Further, they suggested the use of agricultural test plots with reservoir sediment that could be compared to the yields from a control plot without any added soil to assess potential value. Another comment pointed out the need for tree/driftwood removal from streams and large water bodies.

Additional questions and concerns were expressed regarding changing climate conditions, aging infrastructure, and the potential failure of existing dams. One commenter questioned whether increasing temperatures and extreme rain events would lead to greater strain on reservoirs, from both greater precipitation and sedimentation, causing dams to fail. They expressed a need to consider the economic ramifications and potential loss of life from such a scenario.

Flood Risk Management

Flood control and strategies for dealing with the impacts of flooding were frequently mentioned as issues of concern. Several commenters expressed a desire to reduce large releases from reservoirs, with Perry Reservoir in particular mentioned, pointing out that such high flows have negative economic impacts on the lake (recreation), community, and surrounding businesses. Water control points were also mentioned as an issue of concern. One commenter suggested a revision to the management plan that incorporated further drawdown of reservoirs below the multipurpose target levels when the gage at Waverly is above 150 cfs, in order to reduce discharge spikes and keep the flows more manageable. They pointed out that, this past season (2019), there would have been more storage for late season rains that flooded homes and impeded repair of breached levees if Tuttle Creek Lake had been drawn down below flood control levels into the multipurpose pool. The commenter also suggested increasing storage through the use/creation of additional wetlands.

Other concerns expressed related to flooding included a need to redraw 500 year floodplains, as well as increase flood recovery assistance on flowage easement areas.

Ecosystem Restoration and Management

A variety of commenters expressed support for maintaining and revitalizing ecosystems in the Kansas River Basin. The KRWAD requested an analysis of appropriate target flows required to meet instream purposes, similar to the minimum desirable stream flows found on other stream and rivers in Kansas. The value of partnerships in habitat restoration was also discussed, with the examples given of Geary County

Fish & Game and Habitat First - KDWPT, Pheasants Forever and Ducks Unlimited. The need for pollution control measures were also noted, with agricultural practices (no-till) and Confined Animal Facility Operation drainage controls mentioned as impacting water quality. Streambank stabilization and riparian forest buffer projects were again mentioned as having a positive impact.

One commenter noted the impacts of water pollution (agricultural chemicals, pharmaceuticals, excess sedimentation, and manure) from Kansas on rivers throughout the United States, as well as the Dead Zone in the Gulf of Mexico. They also noted the inability of wildlife to avoid contaminated water and the negative repercussions. It was suggested that a policy is needed that forces those who pollute to pay to prevent it (such as pharmaceutical companies being responsible for pre-treatment of water impacted by pharmaceuticals prior to discharge into the natural environment) or clean it up. Additionally, the commenter also suggested a mandatory 100-foot buffer around all waters on or impacted by a landowner's property that would be restored to native habitat and unusable for animal or crop occupation with penalties like loss of subsidies or higher taxes to incentivize participation.

Harmful algal blooms (HABs) were also noted as a major concern. Upstream BMPs (no-till, soil health, nutrient management practices, and continuous cover) were recommended for reducing HAB duration and frequency. The Kansas RAC suggested partnerships with downstream users, like the Milford Lake Regional Conservation Partnership Program, as an effective means of promoting BMPs and reducing nutrient loading above reservoirs. The Kansas RAC also stated the need for the KWO, Kansas Department of Health and Environment, and USACE to develop a plan to manage releases from reservoirs during HABs that provides notice to downstream communities and minimizes the impact on drinking water suppliers.

Recreation

Support was expressed for the preservation and enhancement of recreational opportunities at all lakes in Kansas. Commenters expressed a need to evaluate the economic values of reservoirs and the surrounding land. As mentioned previously, the benefit of using releases from Kansas reservoirs for Missouri River navigation compared to the impact on recreation and water supply was questioned. One commenter suggested the need to look at all impacts of a reservoir to fully understand the economic influence, such as the cost of maintenance and increased traffic on roads for recreational use, loss of taxes from land covered by the reservoir, agricultural damages on the surrounding land, as well as revenue from recreation. There was also a desire expressed for revenue from agricultural leases and recreation to stay within the district where the site is located.

Other suggestions included raising the conservation pool at reservoirs for recreational use and increasing recreational opportunities. It was noted that biking trails are well utilized, with Wilson Lake specifically mentioned. One commenter questioned if more hiking/biking opportunities were possible and expressed concern that the current trails won't keep up with increased visits, again specifically at Wilson Lake.

Attachment 1
News Release, Meeting Materials

NEWS RELEASE

U.S. ARMY CORPS OF ENGINEERS **BUILDING STRONG ®**

For Immediate Release:
Release #PA-2019-95
November 22, 2019

Contact:
U.S. Army Corps of Engineers
Public Affairs Office
Kansas City, Mo. 64106-2896
Phone: (816) 389-3486
Fax: (816) 389-3434

Public input sought for Kansas River Basin watershed study

KANSAS CITY, Mo. - The Kansas City District and our partners encourage the public to attend public scoping meetings in the Kansas River Basin to provide input on the Kansas River Reservoirs Flood and Sediment Study, a joint-federal and state watershed study effort.

The U.S. Army Corps of Engineers, Kansas City District, Kansas Water Office, and Kansas Department of Wildlife, Parks and Tourism are in the early stages of a five-year watershed study to develop a long-term plan for the basin's water resources and infrastructure. The study is an opportunity to review existing and possible future conditions in the basin, lake and river basin management, and to investigate ways to extend the useful life of the 18 federal reservoirs in the basin by increasing resiliency and maintaining capacity. Study topics include drought and water supply, sediment management and reservoir sustainability, ecosystem restoration and management, flood risk management and recreation. The group expects to finalize the watershed report in the fall of 2023.

Four public scoping meetings are planned to hear and document specific ideas, concerns, and opinions from across the Kansas River Basin and to ensure that the values of the public are incorporated into the watershed study. These open-house style, come-and-go meetings will provide the public the opportunity to ask questions and discuss any concerns one-on-one with agency staff. The meetings are as follows:

- December 2, 2019 - 6:30-8:30 p.m. – Manhattan Fire Department, 2000 Denison Ave, Manhattan, KS 66502
- December 5, 2019 – 6:30-8:30 p.m. – American Legion Post 174, 645 W 15th St, Ellsworth, KS 67439
- December 10, 2019 – 6:30-8:30 p.m. – Geary County Senior Citizens Center, 1107 S. Spring Valley Rd, Junction City, KS 66441
- December 12, 2019 – 6:30-8:30 p.m. – Perry Lecompton High School, 404 Lecompton Rd, Perry, KS 66073

A brief overview of the study will be formally presented each evening at 7:00 p.m. To submit comments online, or to find more information on the study and meetings, visit the study website - https://kwo.ks.gov/projects/kansas-watershed-study

The Kansas City District is a team of dedicated professionals with a strong heritage and proven results who, in collaboration with our partners, proudly serve in the Heartland providing leadership, technical excellence, and innovative solutions to the nation's most complex problems.

-30-

U.S. Army Corps of Engineers – Kansas City District
601 E. 12th Street
Kansas City, Missouri 64106-2896
Visit us online! www.nwk.usace.army.mil/
“Like” us on Facebook! www.facebook.com/usace.kcd

Attachment 2
Comments

Kansas River Reservoirs Flood and Sediment Study outreach meeting

Monday December 2nd Manhattan, KS

Written Comments:

1. Flood Recovery Assistance on Flowage Easement Areas (Tuttle Creek) – Mark 785-562-8273
2. Changes of Land Use Since 1900 – Steve Higgins (shiggins@rileycountyks.gov)
3. Agriculture Practices, i.e. “no-till drill” - Steve
4. CAFO drainage Controls??? – Steve
5. Tree/driftwood removal from streams and large water bodies - Steve

Kansas River Reservoirs Flood and Sediment Study outreach meeting

Thursday December 5th Ellsworth,

Written Comments: (Jennifer & Anita)

1. (+1) For sediment removal/management
2. (-1)) For reallocation, specifically at Wilson
    a. Recreation impacts
    b. Desalinization, concerns with disposal (injection)
3. (+1) For preservation & Enhancement of recreational opportunities at all lakes in Kansas
    a. Biking trail is well utilized
    b. Could there be more hiking/biking opportunities? Concern that current trails won't keep up with increased visits to Wilson, year after year
4. (+1) For maintaining & revitalizing ecosystems
5. Continued concerns with water supply at Russell- quality, some quantity too
    a. Big Creek is supply, which has Hays discharge, opportunity for filtration/ecosystems??

Kansas River Reservoirs Flood and Sediment Study outreach meeting

Tuesday December 10th Junction City,

Written Comments:

1. (Ed Augustine) Partnerships in habitat restoration
    a. Example of Geary Co. Fish & Game
    b. Habitat First - KDWPT, Pheasants Forever (PF) and Ducks Unlimited (DU)
2. (Herb Able) Quantity and Quality of water availability will probably become more & more critical over time
3. (Ty Arneson) Stop the floods please!

Kansas River Reservoirs Flood and Sediment Study outreach meeting

Thursday December 12th, Perry, KS

Written Comments:

1. Eliminate large releases from Perry
    - Negative economic impacts on lake, community and businesses
2. Landowner Programs – Participate Basin Wide
    - Water management – sediment capture/control
    - Private and publications
3. Sediment – Lake and Stream capacity
4. Water control points – Waverly, other
5. Ag lease & recreation revenue stay at project/district
6. What are the economics of the lake?
    - Maintenance of roads for boats/campers
    - Amount of land is out of tax rolls due to lake-$100,000 in lieu of taxes isn't equal
    - Food damages in immediate area, while much of flood benefits are out of the county
    - How much does the recreation piece really provide?
    - Loss of ten camping vs RV hookups-tent campers=purchases, RVs=people bring their own goods
    - Bridges/roads that get the increased traffic due to the lake only
7. Raise conservation pool for recreational use.
8. Problem with using Kansas Lakes for Missouri River Navigation-what is the real economic benefit of that? Does it outweigh the cost to recreation & water supply in KS?

Kansas River Reservoirs Flood and Sediment Study
Perry Public Outreach Meeting
Comment Form Submissions
December 12, 2019

Name

Larry T. Davis

Affiliation

-

Email

davidslarry51@yahoo.com

Address

18229 21 St., Lawrence, KS 66044

Phone Number

785-840-5289

Date

12-12-2019

What county do you reside in? What sector do you represent (e.g. agriculture, academia, government)?

Jefferson Co., Land and real estate and agriculture

What topics in the Kansas River Basin are of greatest concern to you and why?

Flooding, any redrawing of 500 year flood planes

What do you suggest as measures or strategies to address your concerns?

Maps. information on where money will be spent and where can I get map and information and where do I go. Whats the plan for address Algal Blooms.

If no action is taken within the basin, how do you see your interests affected in the next 50 years?

Cost of water quality going up. Flooding in houseing.

Additional comments

-

Name

Cheri Sharkey

Affiliation
PYC

Email

bsharkey@embarqmail.com

Address

8699 Cedar LN Ozawkie KS

Phone Number

7858762644

Date

12/12/2019

What county do you reside in? What sector do you represent (e.g. agriculture, academia, government)?

Jefferson / Resident

What topics in the Kansas River Basin are of greatest concern to you and why?

Sediment Flood Control

What do you suggest as measures or strategies to address your concerns?

-

If no action is taken within the basin, how do you see your interests affected in the next 50 years?

Yes. Lake Perry will be gone. Our communities surrounding the Lake will suffer.

Additional comments

-

Kansas River Reservoirs Flood and Sediment Study
Online Comment Submissions
January 16, 2020

Timestamp

11/12/2019 9:14:01

Name

Robert Atchison

Address

2610 Claflin RD

City

Manhattan

State

Kansas

Zip Code

66502

Email and/or Phone Number

atchison@ksu.edu

Affiliation

Kansas Forest Service - KSU

What county do you reside in? What sector do you represent (e.g. agriculture, academia, government)?

Riley - State Government

What topics in the Kansas River Basin are of greatest concern to you and why?

Sedimentation of Federal Reservoirs - streambank erosion - because its effects both water quality and quantity and all the problems listed in the executive summary.

What do you suggest as measures or strategies to address your concerns?

Engaging private landowners in streambank stabilization and riparian forest buffer projects. There is also a need to develop programs and policy to protect riparian forests.

If no action is taken within the basin, how do you see your interests affected in the next 50 years?

Water supply shortages

Additional comments

I provided Josh Olson with a packet of much of our riparian forest assessments and information about the millions of federal dollars our agency brings to the table to address these issues. This should help with the "inventory" part of the planning process. KFS has a state legislative mandate to address these issues. Typically, our experience is the important role of riparian forests is often over-looked in addressing these issues. Also, the proverbial elephant in the room is the difficulty of engaging private landowners to adopt these BMPs. The KFS is available to help with this planning process.

Timestamp

12/3/2019 10:54:19

Name

Will Casner

Address

32389 cr 231

City

Carrollton

State

MO

Zip Code

64633

Email and/or Phone Number

660-815-4787

Affiliation

Landowner/Stakeholder in Mo River Bottoms

What county do you reside in? What sector do you represent (e.g. agriculture, academia, government)?

Carroll County Missouri

What topics in the Kansas River Basin are of greatest concern to you and why?

Flooding

What do you suggest as measures or strategies to address your concerns?

Increase storage in reservoirs and in the river channel with additional wetlands

If no action is taken within the basin, how do you see your interests affected in the next 50 years?

I'll have to relocate living situation and sell property if flooding at Waverly continues.

Additional comments

Amendments to the project management plan should incorporate further drawdown of reservoirs below the multipurpose target levels for reservoirs when the gauge at Waverly is above 150 cfs. Additional efforts should be made to coordinate and minimize release pulses with the USACE NWD to mitigate excessive downstream flow in flooding events. Drawdowns below the multipurpose levels in Kansas River reservoirs would limit damaging flows if done with more manageable releases rather than huge spikes with very drastic spikes in CFS. This past season if the drawdowns at Tuttle Creek would have went below the flood control levels and further below the multipurpose levels there would have been more storage for the late season rain events that kept the levee districts from repairing the levee breaches and also kept the river out of peoples homes.

Timestamp

12/11/2019 20:21:11

Name

Allyn Lockner

Address

2135 SW Potomac Drive, No. 4

City

Topeka

State

Kansas

Zip Code

66611-1450

Email and/or Phone Number

alockner@cox.net

Affiliation

None; I am retired

What county do you reside in? What sector do you represent (e.g. agriculture, academia, government)?

Shawnee County, Kansas. I represent myself as a retired person interested in achieving regional water security..

What topics in the Kansas River Basin are of greatest concern to you and why?

1. What is the number of aging earthen dams located above the reservoirs within the Kansas River Basin? What is the status of these dams in terms of holding sediment, chemicals and water wastes? Are any breached? Who owns the dams? What is the potential for sudden hard rain resulting in flooding and accelerated erosion that will likely trigger dam collapses? Do the answers to these questions affect the loss of water supply and flood control capacities of down stream reservoirs in the Basin?

2. Climate scientists forecast temperature spikes. Does this mean warmer air holding more moisture? Will heavier rain saturate dams and spillways and thereby increase impact on downstream reservoir storage capacities?

3. Thinking decades into the future, the quantity of sediment in the reservoirs is large and is a liability which will increase unless corrective measures are taken. Might the sediment be an asset in the future that would justify mining the sediment in the reservoirs? With world population forecasts, there will increased demand for food and fiber. Yet, the tillable land will unlikely increase. Increased production of food and fiber will have to occur on existing acreage. The mining of the sediment and spreading it on existing acreage may increase the production capacity of existing acreage. The mining and spreading of sediment may reduce the necessity of farmers having to purchase more commercial fertilizers. Most important, the quantity of sediment in reservoirs would be reduced. With these two positive outcomes, the federal government may be interested in supporting sediment mining or at least, supporting research on sediment mining to determine the circumstances under which sediment mining would be cost-effective.

What do you suggest as measures or strategies to address your concerns?

Regarding paragraph 1, I suggest that the River Reservoirs Flood and Sediment Study obtain answers to the questions.

Regarding paragraph 2, I suggest that the Study obtain answers to the questions.

Regarding paragraph 3, as a starting point, I suggest that the Study locate a test plot containing typical cultivated land in the study area, obtain samples of the sediment in reservoirs, analyze the chemicals in the samples, spread the sediment from each reservoir at a different location in the test plot, and plant the same type of crop seeds at each location. Leave a location in the test plot undisturbed with no sediment. At the end of the growing season, harvest the crops from each location in the plot.. Compare and analyze the harvested crop yields at each location. Test results will tell us whether additional exploration of sediment mining is worthwhile.

If no action is taken within the basin, how do you see your interests affected in the next 50 years?

The historical sedimentation trends will continue. Reservoirs will be less useful as water supply and flood control infrastructures, affecting all types of human activity in the Basin. The reservoir dams and spillways will be over 100 years old, and some are more likely to collapse under pressure because of age leading to downstream flooding with possible loss of life and property. Population loss is more likely to occur. After all, clean and fresh water is vital to all known forms of life. And polluted and flooding water can kill all known forms of life.

Additional comments

Individuals and/or groups that are widely known, well informed, and highly trusted in the Basin need to tell the Basin story if nothing is done over the next 50 years to the voting public. It has to have the information and will to talk to and vote for elected public officials who have the political will to vote for water policies and programs that avoid 50-year story becoming a reality in the Basin.

Thank you for the opportunity to comment.

Timestamp

12/13/2019 10:33:39

Name

Mike Lawless

Address

212 SW 7th Street

City

Topeka

State

Kansas

Zip Code

66603-3717

Email and/or Phone Number

mlawless@lawrenceks.org

Affiliation

Kansas River Water Assurance District No. 1

What county do you reside in? What sector do you represent (e.g. agriculture, academia, government)?

-

What topics in the Kansas River Basin are of greatest concern to you and why?

-

What do you suggest as measures or strategies to address your concerns?

-

If no action is taken within the basin, how do you see your interests affected in the next 50 years?

-

Additional comments

Submitted a letter to Cara Hendricks via email.

Timestamp

12/27/2019 11:54:30

Name

Dusty Miller

Address

24385 W 71st St

City

Shawnee

State

KS

Zip Code

66227

Email and/or Phone Number

ponygirl@kc.rr.com

Affiliation

Kansas citizen

What county do you reside in? What sector do you represent (e.g. agriculture, academia, government)?

Johnson; environmental advocate

What topics in the Kansas River Basin are of greatest concern to you and why?

Water pollution - agricultural chemicals, pharmaceuticals, excess sedimentation, manure. This pollution from our state and others creates the Dead Zone in the Gulf of Mexico and extreme pollution of our major rivers in the heartland of the U.S. Chemicals and pharmaceuticals deform fish and amphibians and wipe out native mussels. Wildlife has no choice but to drink these waters we pollute, and we also have to pay to treat them to drink ourselves - why not keep them as clean as possible in the first place. The way that agricultural interests are allowed to control everything and offload the pollution from their businesses onto our common environment and waters needs to be changed - those who pollute the water must pay to prevent the pollution or clean it up.

What do you suggest as measures or strategies to address your concerns?

All agricultural businesses, whether crops or animals or both, must be required to implement undisturbed 100 foot or more wide buffer areas around all waters on their land and/or that they may be affecting by their activities (ephemeral, intermittent, small, large, stream, river - ALL waters). These buffer areas would be restored to native prairie and/or planted as pollinator habitat. The buffer areas

would be off limits for any animal or crop occupation and would also be protected from pesticide use on or near them. This would go a very long way in addressing every kind of pollution. Penalty for those thumbing their noses at this measure would be loss of subsidies (could work jointly with federal)/tax incentives and higher local taxes due. For pharmaceuticals, the producing companies such as Bayer must be required to pay for water treatment plant upgrades such that the treatment plants are able to remove all pharmaceuticals before discharging the water back to our rivers.

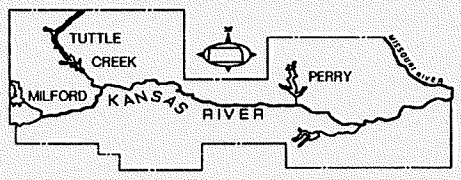
If no action is taken within the basin, how do you see your interests affected in the next 50 years?

Kansas will continue to be at the bottom of the nation in water quality and will continue to contribute unnecessary pollution into our waters and the Gulf of Mexico, affecting all of us and all animals and the environment negatively. Inaction is not an option!

Additional comments

I hope to see the Kansas Water Office and KDHE stand up to protect our water instead of caving to livestock and agricultural interests. Thank you!

The Kansas River



Water Assurance District No. 1

212 SW 7th Street - Topeka, Kansas 66603-3717

December 10, 2019

TO: Kansas Water Office

RE: Comment on the "Kansas River Reservoirs Flood and Sediment Study, (the Study)"

The Kansas River Water Assurance District No. 1 (KRWAD No. 1) appreciates the opportunity to submit comments on the Study. KRWAD No. 1 requests that the Study include a review of the effects of changing some Future Use Storage in Milford and Perry Reservoirs for use as Water Quality Storage. In addition, KRWAD No. 1 supports the Study looking at ways to recapture lost wetlands and riparian habitat above federal reservoirs and the use of multiple sedimentation control and removal strategies to maintain reservoir storage capacity.

KRWAD No. 1 also asks that the Study include an analysis of the appropriate Target Flows required to meet instream purposes, similar to the minimum desirable stream flows found on other streams and rivers in Kansas.

KRWAD No. 1 is a joint-action, non-profit corporation established under the authority of the laws of Kansas, K.S.A. 1986 Supp. 82a – 1336 to 82a -1369, (the Act). The Act requires eligible water right holders to be members of a water assurance district. The purpose of the district is to allow coordinated operation of state-owned or controlled water storage space in federal reservoirs, within a designated basin, to satisfy downstream municipal and industrial water rights during drought conditions. The KRWAD No. 1 purchased storage in three federal reservoirs within the Kansas River Basin through direct purchases exceeding $8 million.

Sincerely,

Mike Lawless, PE
President
Kansas River Water Assurance District No. 1

Phone - 232-9947 • Fax - 232-1922
E-mail - krwadno1@compuserve.com

January 21, 2020

Mr. Josh Olson

Kansas Water Office

900 SW Jackson St. Suite #404

Topeka, KS 66612

RE: Kansas RAC response to the Kansas River Reservoirs Flood and Sediment Study

The Kansas River and its basin are extremely important to the members of the Kansas Regional Advisory Committee (RAC). Not only are these members personally engaged in basin activities but they realize the value of a healthy river system. The basin supplies critical drinking water for more than 800,000 people and is used for irrigation, municipal wastewater, industrial discharges, power generation as well as a source of commercial sand and gravel. The reservoirs in the system and multiple federal levees provide flood risk reduction benefits. The comments of the RAC are relates to our Goals and Action plans as they are tied directly to this study.

Comments:

Goal #1: Increase water storage capacity and availability in federal reservoirs. Beginning in 2020 the state should purchase all available storage in federal reservoirs (15-year option) to secure an adequate water supply to maintain water quality in the region. Simultaneously, pursue a reallocation of water to quality pool to potentially reduce the amount of the mandatory purchase. Also pursue Forecast Informed Reservoir Operations with the USACE.

- Conduct an analysis of the impacts of the draw downs at Milford, Tuttle Creek and Perry reservoirs due to Missouri River navigation support. The results of this study will inform the decision as to whether or not to accelerate the purchase of the remaining storage at the aforementioned reservoirs.
- Request reallocation of any remaining storage in the four reservoirs from water supply to water quality.

Goal #2: Explore additional storage possibilities for construction of small multipurpose lakes so that new water sources can be bought online to alleviate specific regional issues.

- Seek partnership and funding opportunities to rehabilitate existing watershed reservoirs and/or construct new reservoirs that meet the established criteria.

Goal #3: Reduce the cumulative sediment rate of federal reservoirs and other water supply lakes in accordance with individually targeted reduction rates to achieve the targeted watershed plan goal within 50 years.

- The sediment reduction goal will be addressed with best management practices (BMPs) implemented in the watersheds of reservoirs and lakes in the Region. It is estimated that the BMP implementation needs to achieve this level of reduction is accomplished by funding a minimum of $5M annually.
- Establish programs with local universities to leverage relevant expertise and student resources that will address the sedimentation reduction goal.
- Obtain technical assistance and advisors at a level sufficient to meet the BMP implementation goal in the Region.
- A large portion of the watershed for Milford and Tuttle Creek Reservoirs extends outside of the boundaries of the State of Kansas, therefore, we recommend that Kansas agencies partner with both Nebraska and Colorado to implement a regional BMP program for the basin.

Goal #5: Reduce the duration and frequency of Harmful Algal Blooms (HABs) in the Kansas Regional Planning Area by 2022.

- By 2022, all state and federal lands surrounding each federal reservoir in the Kansas Regional Planning Region must have implemented BMPs at levels sufficient to address harmful algal bloom (HABs) reduction goals. Recommended BMPs include no-till, soil health, nutrient management practices, and continuous cover.
- Encourage partnerships with downstream water users to prioritize and focus funding and land treatment above the reservoirs in order to prevent nutrient loading into reservoirs (example, Milford Lake RCPP).
- The Kansas Water Office, Kansas Department of Health and Environment, and US Army Corps of Engineers must develop a plan to manage releases from reservoirs in the Kansas Regional Planning Area during HABs and provide notice to downstream communities of the level of release in order to minimize the impact of HABs on drinking water suppliers.
- Support ongoing research for identification and remediation of the causes, prevention and treatment of HABs, including potential in-lake technologies.
- Promote the importance of soil health in meeting sedimentation reduction goals. This includes supporting educational campaigns as well as funding of BMPs and methods that build organic matter, encourage adoption of nutrient management practices, increase use of no-till and other related practices that reduce erosion and promote water infiltration rates.

The members of the Kansas RAC thank you for the opportunity to provide comments on this study that could have monumental impacts on the Kansas Basin in the future.

Sincerely,

Dawn Buehler

Dawn Buehler

Chair, Kansas RAC

Members:

Brad Bradley – Fish and Wildlife

Rich Bean – Public at Large

Adam Bauer – WRAPS

Marlene Bosthworth – Conservation/Environment

Glenn Brunkow – Agriculture

Sarah Hill-Nelson – Industry/Commerce

Leslie Holthaus – Conservation/Environment

Heath Horyna – Industry/Commerce

Dan Howell – Agriculture

Darci Meese – Public Water Supply

William Ramsey – Planning, Restoration & Protection

Greg Wilson – Water Assurance District

AGENCY AND STAKEHOLDER COORDINATION MEETINGS

PROBLEMS AND OPPORTUNTIES SMALL GROUP WORKSHOP

KANSAS
River Reservoirs Flood and Sediment
STUDY

Kansas River Reservoirs Flood and Sediment Study
Small Group Workshop Summary

December 2019

Kansas Water Office

Kansas Department of Wildlife, Parks and Tourism

US Army Corps of Engineers ®
Kansas City District

Overview

The Kansas River Reservoirs Flood and Sediment Study (Watershed Study) is a collaborative effort between the U.S. Army Corps of Engineers (USACE) and the State of Kansas including the Kansas Water Office (KWO) and the Kansas Department of Wildlife, Parks and Tourism (KDWPT).

The Kansas River is an important resource for the State of Kansas. The Kansas River begins at the confluence of the Republican and Smoky Hill Rivers near Junction City and flows 173 miles to Kansas City, where it joins the Missouri River. The Kansas River Basin drains almost the entire northern half of Kansas, as well as part of Nebraska and Colorado (60,580 square miles in all). There are roughly 640 freshwater stream miles below all major dams, and approximately 100,000 acres of federally owned freshwater impoundments, including USACE and U.S. Bureau of Reclamation (USBR) reservoirs, in the Kansas River Basin. It serves as a critical drinking water supply for more than 600,000 people in addition to being used for irrigation, municipal wastewater and industrial discharges, power generation, and as a source of commercial sand and gravel. In addition to flood risk reduction benefits from the reservoirs (more than $22B in flood damages prevented in the basin since construction through 2018), there are several federal levee projects located on the banks of the Kansas River that provide flood risk reduction benefits ($2M in flood damages prevented in the basin since construction through 2018), mainly to larger urban areas such as Topeka and Kansas City, Kansas. Additionally, recreation use in the Kansas River Basin (boating, kayaking, camping, picnicking, fishing, swimming, hunting, wildlife viewing, etc.) provides substantial benefits to the local, regional, and national economy.

The USACE, KWO, and KDWPT conducted a small group workshop as a part of scoping for the Watershed Study on November 6, 2019 from 2:00 – 4:00 p.m. at the Hyatt Regency in Wichita, Kansas. Invitations were distributed to a list of participants developed by the three agencies. Participants were from a group of diverse interests and stakeholders across the Kansas River Basin. A list of Participants is included in Table 1 below.

Participant	Organization/Affiliation
Jason Sunderland	Kansas Department of Wildlife, Parks and Tourism
Willis Ohl	Kansas Department of Wildlife, Parks and Tourism
Herb Graves	State Association of Kansas Watersheds
Chris Janssen	Kansas Department of Health and Environment
Tony Layzell	Kansas Geological Survey
Lorrie Hill	City of Olathe, Kansas
Adam Bauer	Kansas Alliance for Wetlands and Streams
Chris Schultz	Kansas Water Office
Tim Driggs	City of Phillipsburg, Kansas
Debbie Baker	Kansas Biological Survey
Dawn Buehler	Friends of the Kaw
Ty Arneson	Thunderbird Marina
Greg Wilson	Kansas River Water Assurance District
Dustin Mengarelli	Kansas Department of Wildlife, Parks and Tourism
Jordan Hofmeier	Kansas Department of Wildlife, Parks and Tourism
Aaron Deters	Kansas Department of Wildlife, Parks and Tourism
Matt Hough	Ducks Unlimited
Chris Steffen	Kansas Department of Wildlife, Parks and Tourism

Participant	Organization/Affiliation
Doug Nygren	Kansas Department of Wildlife, Parks and Tourism
Alan Stark	Kansas Department of Wildlife, Parks and Tourism
Allen Chestnut	USACE, Kansas City District
Rollin Hotchkiss	Brigham Young University
Brian Twombly	USACE, Kansas City District
Rob Reschke	Kansas Department of Agriculture-Division of Conservation
Jude Kastens	Kansas Biological Survey
Brian Klager	U.S. Geological Survey
Shane Neel	Kansas Forest Service
Andy Ziegler	U.S. Geological Survey
Brian Kelly	U.S. Geological Survey
Craig Painter	U.S. Geological Survey
Chantelle Davis	U.S. Geological Survey
Brad Lukasz	U.S. Geological Survey
Aaron Williams	USACE, Kansas City District
John Shelley	USACE, Kansas City District
Bob Atchison	Kansas Forest Service
Ellen Parker	WaterOne
Darci Meese	WaterOne
Anele Kramer	U.S. Geological Survey
Jennifer Switzer	USACE, Kansas City District
Nathan Westrup	Kansas Water Office

Meeting Purpose and Format

The purpose of the workshop was to gather and exchange information and to hear specific ideas, concerns, and opinions from a group of diverse interests and stakeholders across the Kansas River Basin and to ensure that the values of stakeholders and the public are incorporated into the watershed study.

The desired outcomes included identification of the scope of various goals and objectives of individual stakeholders.

A brief presentation was given at the beginning of the workshop discussing the study background, Kansas River Basin facts, problems in the basin, the Shared Vision Statement, opportunities, study scope, study

focus areas, potential strategies/alternatives, outreach and public involvement, study outcomes, and the study timeline.

Meeting participants identified issues related to:

- Water Supply and Drought
- Sediment Management and Reservoir Sustainability
- Flood Risk Management
- Ecosystem Restoration and Management, and
- Recreation

Participants were randomly grouped in four break-out groups and asked to brainstorm ideas related to the five topic areas considering the following question:

"What water related issues in your community or area of interest exist today or are emerging in the next 50 years?"

Following the brainstorming session the ideas developed by the participants were discussed for each of the five topic areas focusing on the following two questions:

- Why is your issue important?
- How would you prioritize these water related issues?

Meeting Agenda

The agenda for the meeting included:

2:00 – 2:15 Welcome / Study Overview Presentation – John Grothaus (USACE)

2:15 – 2:20 Charge for Breakout Groups – Laura Totten/Ginger Harper (USACE)

2:20 – 4:00 Breakout Group Session

2:20 – 2:35 Brainstorming / Generate Ideas

- Review of 5 topic areas
  - Water Supply and Drought
  - Sediment Management and Reservoir Sustainability
  - Flood Risk Management
  - Ecosystem Restoration and Management
  - Recreation
- Brainstorm ideas related to the 5 topics considering the following question:
  - What water related issues in your community or area of interest exist today or are emerging in the next 50 years?
- Group members individually brainstorm and write ideas on sticky notes.
- Each breakout group will discuss the same topics. Each group will select a volunteer from the participants to present the report back at the end of the workshop.

2:35 – 3:30 Review of Ideas and Grouping into Similar Themes

- Once ideas are generated each group will discuss the ideas related to each topic and consider the following questions:

  - Why is your issue important?
  - How would you prioritize these water related issues?
- Summarize discussion and prepare report back (bulleted list).
  - The group will summarize the outcome of the discussion including goals and objectives, issues and opportunities, near- and long-term actions, similarities they noticed, surprises, priorities, etc.

3:30 – 3:55 Report Back

- Each group will provide a summary of the outcome of the discussion to the larger group

3:55 – 4:00 Wrap-up – John Grothaus (USACE)

4:00 Adjourn

Participants received copies of the agenda and other handouts, including an executive summary as a read-ahead, a study fact brochure, and a comment card. The agenda, read-ahead materials, presentation, and handouts are provided in Attachment 1.

Summary of Discussion

The discussion related to each of the five topic areas is summarized below by topic. The full record of the discussion within each of the four breakout groups is included in Attachment 2.

Water Supply and Drought

The water supply and drought discussions focused on how to mitigate the continuous cycle of water scarcity and abundance in the Kansas River Basin, emphasizing the need to prepare for more extreme conditions and greater variability in the future. Specifically, the need for a comprehensive climate plan was identified. Additionally, participants noted the need for improved data to better understand the current situation and changes coming in the future. Tools that were mentioned as having the potential to aid in preparing for future conditions included improved evaluation of population/demand trends and implementation of Forecasted Informed Reservoir Operations (FIRO), which could be used to more effectively utilize storage based on projected conditions. It was noted, however, that the uncertainty of conditions for both future population/demand and FIRO makes it difficult to manage and prepare appropriately.

Sedimentation causing reduced storage for water supply was also mentioned as a significant problem, with Tuttle Creek Lake specifically identified as a major concern. Municipal water suppliers mentioned apprehensions about investing in a declining supply and noted there was support for testing potential strategies to solve the issue, such as Water Injection Dredging (WID). Several participants also stressed the need for upstream practices to prevent sediment from reaching the reservoirs, such as streambank stabilization, improved soil health, increased riparian support, cover crops, and no till farming practices. It was noted that such practices help reduce water quality issues and negative impacts to fish and wildlife caused by erosion and nutrient leaching (Harmful Algal Blooms [HABs]) related to extreme events. Continuing to discuss water quality issues, the need for operating Milford, Perry, and Tuttle Creek Reservoirs as a system to maintain water quality and appropriate stream flows was mentioned with reallocation of uncontracted storage to water quality suggested as a possible solution. Utilization and reforestation of wetlands was also recommended as a tool for improving water quality.

Finally, in considering water supply sources other than reservoirs, groundwater was discussed as a resource that was being both overused and underutilized. Groundwater declines in some regions were mentioned as impacting stream flows. For those regions, greater education and improved conservation were thought to be important focuses with a need to consider possible water management alternatives,

such as re-use technologies, brine sources, and basin-to-basin transfers that would aid communities and agriculturalists during periods of drought. For other regions of the state, groundwater was discussed as having the potential to assist with water supply concerns. Participants expressed a desire to see the Kansas River alluvial system utilized as a filtration and storage system for water supply, potentially aided by artificial recharge. The Kansas River Alluvial Aquifer Observation Well Network currently being created by the Kansas Geological Survey was mentioned as a useful resource toward that goal.

Sediment Management and Reservoir Sustainability

The sediment management and reservoir sustainability discussions focused on the need to maintain storage capacity and covered several of the issues mentioned for water supply and drought. Some participants suggested focusing on removing sediment that was already deposited in the reservoirs while others stressed the need to address sedimentation at the source, preventing it from reaching reservoirs. It was also suggested that other water supply sources be considered due to aging dams and increasing Operations & Maintenance costs.

Participants interested in removing sediment from reservoirs expressed a need for cost-effective, sustainable strategies. They also stated an interest in exploring new dredging options, such as WID, and researching innovative, successful sediment management strategies being implemented around the world (sediment bypass, traditional dredging). Again, there was some concern expressed about future water supply storage availability by municipal water suppliers who reiterated support for maintaining the current storage and finding a long-term solution. It was suggested that such initiatives would require regulation that allowed downstream discharge of sediment, not to exceed sediment inflows, and accounted for downstream effects on water quality. This raised the question of whether the general public, which is used to clearer water, would be amenable to the natural condition with more muddy water. However, it was pointed out that locals were not the only entity to consider, as increased sediment would be beneficial to downstream sediment-starved regions that currently experience greater bank erosion and issues with some native fish species caused by the lack of turbidity. Additionally, filling of reservoir storage with sediment results in reduced reservoir depth that creates issues for marina operations, as they have to adjust to the changing conditions, which has recreational and economic costs. Overall, there seemed to be more support for passing sediment downstream than trapping it in reservoirs.

Discussions also focused on the importance of upstream actions on sediment management. Upstream practices such as streambank stabilization, restoration of the hydrologic connectivity of flood plains, wetland protection and development, riparian forest improvement, Regional Conservation Partnership Program (RCPP) efforts, timing of agricultural practices, nutrient management, and improved soil health were discussed as methods for reducing sedimentation and peak flows during extreme events, which data suggests cause the most sedimentation. It was noted that there is a need for policy and enforcement mechanisms to ensure that such practices are maintained and not abandoned based on related circumstances (e.g. price for corn). Participants also pointed out the need to continuously monitor the system to understand how much and what type of sediment is being released, utilizing turbidity to identify primary source areas. Such information was viewed as essential to studying and documenting the effectiveness of sediment management strategies and in understanding the connection between sediment and HABs, which participants were interested in. It was noted that effective upstream sediment management necessitated that sediment be viewed as a watershed issue, requiring coordination and collaboration with surrounding states in the basin.

Flood Risk Management

The flood risk management discussions focused on the impacts of floods, measures to reduce flood damages, preservation and creation of new infrastructure, and strategies to improve communication during floods. Participants noted a variety of impacts from floods, including damage to and difficulty accessing water supply infrastructure caused by high water levels and associated debris. Additionally, there was concern about the long-term impact of cutting back the streambank and removing the cover

around water supply infrastructure. Participants suggested that there is a need for more appropriate release strategies that reduce loss of streambanks downstream, especially during floods. To support such strategies, it was questioned whether "choke points" (e.g. Waverly, Missouri) could be engineered to handle greater flows, with the importance of synchronization with the Missouri River system discussed. Additionally, it was stated that Lake Level Management Plans should account for water supply and other benefits rather than just primarily wildlife benefits, which would help justify a change in operations. Participants also mentioned that there are impacts upstream of reservoirs during floods, such as backwaters, and that economic impacts, public health, and loss of life should be considered in risk assessments. It was stated that there is a need for better communication with the public, particularly in urban areas, during flooding and real-time decision-making tools like real-time flood inundation mapping and enhanced streamflow monitoring to give communities more time to prepare. There was some dissatisfaction expressed regarding communication about the filling of the flood pool at Tuttle Creek Lake in 2019, as well as the bottleneck at Waverly, Missouri with a desire expressed for better top-down information dissemination.

Participants noted that a significant part of flood damage issues are caused by conflicting land use management desires. Preservation and restoration of the flood plain to spread out flood energy upstream was discussed as a valuable strategy to reduce damages. However, participants noted that such actions that would restore the hydrologic connectivity of the flood plain can create an economic conflict, as communities are often in favor of developing flood plains to increase tax revenues and profits from farming. The practice of urban planning and zoning that allows imprudent human encroachment onto flood plains was highlighted as a significant issue, and it was suggested that there should be a retreat from flood prone areas rather than increased development. A policy that made flood insurance mandatory was also mentioned as a possible way to help manage the existing risk. Participants noted that aging flood management infrastructure and levee breaches, with increasing costs for maintenance, added to overall concerns.

Some participants were more apt to focus on improving flood management infrastructure and potentially building new levees, rather than implementation of flood plain restoration, to protect current infrastructure and resources. It was noted that levees could be used to improve recreational opportunities when setback for trails and parks on the inside of levees as well. Suggestions were again also made about ways to improve flood risk management through upstream practices. Best management practices (BMPs) that improve infiltration, such as increased riparian cover and improving soil health, were discussed as a means of reducing peak flows and sedimentation from floods. It was mentioned that many USACE-leased lands above reservoirs are not using BMP's, and that it is difficult to get buy-in at these properties, as many are legacy leases. In relation to flood impact mitigation strategies, climate change was noted as a concern with projections indicating increased flood frequency. A need for better understanding of trends in high flow frequency to evaluate risk was expressed. FIRO was discussed as having the potential to improve operations and management. It was questioned whether a small amount of flood pool could be used when necessary to support water supply, as well as fish and wildlife. Additionally, municipal water suppliers expressed concern about "big slugs" of water, such as during winter drawdown releases, and a desire for more balanced releases. It was suggested that winter releases could be done later in the year to assist with that request.

Ecosystem Restoration and Management

The ecosystem restoration and management discussions emphasized the goal of creating a healthy, resilient system by mimicking natural conditions and the value of preserving rather than just rehabilitating the natural system. One topic of debate was how to define baseline conditions for an altered and changing system. It was noted that, given the variety of habitats and necessary range of flow requirements in the basin, it may be impossible to replicate historical flows, partially due to a lack of data on historical conditions. Participants suggested an analysis be performed to determine baseline conditions that set targets for restoration. The need to differentiate between target and allowable flows was expressed, noting

that targets would need to take into consideration that new baseline conditions, which species have adapted to, may not match historical conditions given the impacts of water management infrastructure (reservoirs, levees) and climate change. However, participants pointed out that deviations from natural conditions, including habitat loss and riparian issues, tend to favor invasive species, which could exacerbate problems for current threatened and endangered species and cause more native species to become threatened. In particular, the need to think about how releases impact fish species and their reproduction was mentioned. It was suggested that a reallocation of the multipurpose pool for water quality at Perry and Milford Reservoirs, as well as creating a minimum desirable streamflow (MDS) for the Kansas River, could provide justification for adjusting releases appropriately. The current Kansas River Sustainable Rivers Program (SRP) initiative between the USACE and The Nature Conservancy was discussed as a helpful resource on the topic that could inform the Watershed Study. Beyond that, it was suggested that other less highly managed basins be studied to help understand eco-flows when defining operations that mimic a natural system.

Participants suggested a variety of other measures to address ecological concerns. It was noted that opportunities exist to reconnect the flood plain, restore riparian forests, and address river channelization related to agriculture. One participant suggested that agricultural practices adjacent to streams be eliminated, the active channel width restored, and drainage districts improved to address flood related issues. However, it was noted that legislation, such as a buffer law, would be required to enforce some of these practices. The destruction of habitat and tree rot caused by extended high lake levels was noted as a related issue that has impacted ecological health and shoreline cover as well. The protection, restoration, and development of new wetlands was mentioned as having the potential to aid in sediment and nutrient management, increase wildlife habitat, and help restore the natural system. The possibility of increasing turbidity downstream of reservoirs to pre-dam levels was also mentioned, though there was some question as to whether interested parties would accept such an alteration. HABs were discussed as a serious concern for human health and ecological considerations, specifically the impact of hypoxia on fish was mentioned. Nutrient trading was suggested as a means of dealing with the issue. For all ecological initiatives, participants noted that it would be necessary to think about operation and maintenance costs, as well as the potential need to compensate landowners in some conditions.

Recreation

The recreation discussion focused on the various benefits and opportunities related to recreation, how to preserve those benefits, and the impacts of water management on recreation. Participants emphasized that reservoirs have a significant impact on local populations, offering substantial economic and quality of life benefits. It was noted that, as an ancillary benefit that impacts public health, public safety, and water quality, recreation needs to be considered for any proposed alterations to operations in the Kansas River Basin. Additionally, participants identified recreation as an important water management outreach opportunity, as recreational users have a direct connection to the water and take an interest when their water access and recreational opportunities are affected. Thus, improved public education about recreation was described as a need with the efficiency and timeliness of communication to recreational users, especially during flood years when conditions change rapidly, noted as particularly important. Public awareness and education about HABs was also mentioned as being insufficient with a need for greater understanding of the threats to human and animal health.

The effect of extreme events on recreation was another common talking point. Participants stated that both floods and drought negatively impact wildlife and limit recreational access and use. It was noted that there is increasing demand as recreational opportunities become scarcer. The impacts of flooding this year in particular were discussed. Local businesses experienced reduced profits, and state parks were down approximately $2 million from reduced visitation caused by flood-related issues. It was noted that this has created a particularly difficult situation for private businesses and state parks, as not only were there physical damages from flooding that needed to be addressed, but there were reduced funds with which to draw from for repairs and increased operating costs. Participants noted that businesses, such as marinas,

need a solution that allows them to stay open during periods of high water levels. It was also commented that maintaining more consistent lake levels would better allow for recreational infrastructure to be built and improve the effectiveness of shoreline stabilization efforts, as well as help with habitat management and spawning issues.

Participants also discussed a variety of land management issues related to recreation. One participant questioned if it was possible to buy eroding land on or near reservoirs, stabilize it, and then convert the property to a bike path or public hunting land. Related to shoreline stabilization, riparian forests were discussed for their value in reducing erosion and creating valuable habitat and recreational benefits. HABs were also mentioned from a land management perspective with the need to reduce nutrient runoff discussed as a means of managing HABs for the safety of recreational users and the enhancement of aquatic habitat.

MEASURES SMALL GROUP WORKSHOP

KANSAS
River Reservoirs Flood and Sediment
STUDY

Kansas River Reservoirs Flood and Sediment Study
Small Group Workshop Summary

January 21 and January 26, 2021

Kansas Water Office

Kansas Department of Wildlife, Parks and Tourism

US Army Corps of Engineers ®
Kansas City District

Table of Contents

Overview

The Kansas River Reservoirs Flood and Sediment Study (Watershed Study) is a collaborative effort between the U.S. Army Corps of Engineers (USACE) and the State of Kansas including the Kansas Water Office (KWO) and the Kansas Department of Wildlife, Parks and Tourism (KDWPT).

The Kansas River, an important state resource, begins at the confluence of the Republican and Smoky Hill Rivers near Junction City, Kansas, and flows 173 miles to Kansas City, draining into the Missouri River at Kansas City, Kansas. It is the longest prairie-based river in the world. The Kansas River Basin is about 490 miles long, west to east, with a maximum width of about 200 miles north to south from Polk County, Nebraska, to McPherson County, Kansas, and drains almost the entire northern half of Kansas and parts of Nebraska and Colorado (60,500 square miles in all). The basin drains 56 of the 105 Kansas counties, and 34 of the 93 Nebraska counties. About 42 percent of Kansas lies within the Kansas River Basin. There are approximately 100,000 acres of federally owned freshwater impoundments, including USACE and U.S. Bureau of Reclamation (USBR) reservoirs, and roughly 640 stream miles below the major dams, in the Kansas River Basin. The basin supplies critical drinking water for more than 800,000 people and is used for irrigation, municipal wastewater and industrial discharges, power generation, and as a source of commercial sand and gravel. Several federal levee projects on the Kansas River provide flood risk reduction benefits, mainly to larger urban areas such as Topeka and Kansas City, Kansas. Additionally, recreation use in the Kansas River Basin (boating, kayaking, camping, picnicking, fishing, swimming, hunting, wildlife viewing, etc.) provides substantial benefits to the local, regional, and national economy.

As part of the watershed planning process, the USACE, KWO, and KDWPT conducted a second small group workshop for the Watershed Study over a two-day period (Thursday, January 21, 2021 from 1:00 – 4:00 p.m. and Tuesday January 26, 2021 from 9:00 a.m. – 12:00 p.m.). Due to the ongoing Coronavirus pandemic, the meeting was held virtually on the online meeting platform WebEx. Invitations were distributed to a list of participants based on participation from the first small group workshop conducted in November 2019 along with input from the three agencies. Participants were from a group of diverse interests and stakeholders across the Kansas River Basin. A full list of participants is included in Table 1.

Table 1. January 2020 Small Group Workshop Participant List

Participant	Organization/Affiliation
Adam Bauer	Kansas Regional Advisory Committee
Alan Stark	Kansas Department of Wildlife, Parks and Tourism
Allen Chestnut	U.S. Army Corps of Engineers
Bill Heatherman	City of Manhattan
Bob Atchison	Kansas Forest Service
Brad Lukasz	U.S. Geological Survey
Braxton Copley	City of Topeka
Brian Twombly	U.S. Army Corps of Engineers
Cara Hendricks	Kansas Water Office
Chantelle Davis	U.S. Geological Survey
Chris Janssen	Kansas Department of Health and Environment
Dan Baffa	Smoky Hill-Saline Regional Advisory Committee
Darci Meese	WaterOne
Dawn Buehler	Kansas Regional Advisory Committee
Debra Baker	Kansas Biological Survey
Doug Kluck	National Oceanic and Atmospheric Administration
Doug Nygren	Kansas Department of Wildlife, Parks and Tourism
Earl Lewis	Kansas Department of Agriculture
Ellen Parker	Kansas River Water Assurance District No.1 and WaterOne
Ely Sprenkle	Kansas Department of Wildlife, Parks and Tourism
Gary Koons	Kansas Water Office
Greg Totzke	WaterOne
Greg Wilson	Kansas River Water Assurance District No. 1
Heidi Mehl	Wilson Lake Association
Herb Graves	State Association of Kansas Watersheds
Jeff Tripe	U.S. Army Corps of Engineers
Jen Henggeler	U.S. Army Corps of Engineers
Jere Buehler	Wilson Lake Association
Jim Pitman	Ducks Unlimited
Joey Filby	City of Topeka
John Reinke	Kansas Department of Wildlife, Parks and Tourism
John Shelley	U.S. Army Corps of Engineers
Jon Quinday	Smoky Hill-Saline Regional Advisory Committee
Jordan Hofmeier	Kansas Department of Wildlife, Parks and Tourism
Jude Kastens	Kansas Biological Survey

Katie Goff	Kansas Water Office
Ken Kopp	Kansas Rural Water Association
Kent Askren	Kansas Farm Bureau
Lynn Davignon	Kansas Department of Wildlife, Parks and Tourism
Mark VanScoyoc	Kansas Department of Wildlife, Parks and Tourism
Martha Tasker	Access District
Marvin Boyer	U.S. Army Corps of Engineers
Matt Hough	Ducks Unlimited
Michelle Wirth	WaterOne
Mike D'Attilio	Kansas Department of Emergency Management
Mike Lawless	Kansas River Water Assurance District No. 1
Mike Nyhoff	Kansas Department of Wildlife, Parks and Tourism
Nate Westrup	Kansas Water Office
Paul Bixel	City of Olathe
Rex Buchanan	Kansas Geological Survey
Richard Rockel	Kansas Water Office
Samantha Estabrook	City of Manhattan
Sarah Hill-Nelson	Kansas Regional Advisory Committee and Bowersock
Sharon Condit	Post Rock Rural Water District
Steve Adams	Kansas Department of Wildlife, Parks and Tourism
Susan Metzger	Kansas State University
Tom Stiles	Kansas Department of Wildlife, Parks and Tourism
Thomas Williams	U.S. Geological Survey
Todd Lovin	Kansas Department of Wildlife, Parks and Tourism
Tom Stiles	Kansas Department of Health and Environment

Meeting Purpose and Format

The purpose of the workshops was to gather and exchange information, hear specific ideas, concerns, and opinions from a group of diverse interests and stakeholders across the Kansas River Basin, and to ensure that the values of stakeholders and the public are incorporated into the Watershed Study.

There were two primary desired outcomes:

- Refinement of existing Measures and Strategies and identification of new Measures and Strategies recommended by individual stakeholders that address the issues and problems previously identified and help meet study goals and objectives related to water supply and drought, sediment management and reservoir sustainability, flood risk management, ecosystem restoration management, and recreation.
- Reach a general consensus among workshop attendees that the proposed Measures and Strategies are sufficient.

Based on the breadth of information that was to be discussed at the workshop, the topics were divided into two, three-hour workshops. At the beginning of each workshop, a brief presentation was given discussing the participating agencies, purpose of the workshop, scope of the Watershed Study, draft study goals and objectives, strategies and alternatives, study schedule and the Measures and Strategies process.

At each of the two three-hour workshops, after the introductory remarks, participants were separated into four pre-assigned breakout groups within the WebEx virtual meeting platform. Each group was asked to discuss the Working Draft Measures and Strategies (Measures and Strategies) presented in the read-ahead materials and to address the issues related to six specific topic areas:

Day 1:

- Flood Risk Management
- Sediment Management and Reservoir Sustainability
- Water Supply and Drought

Day 2:

- Water Quality
- Recreation
- Ecosystem Restoration and Management

Each of the four groups was to discuss the Measures and Strategies and provide input on whether the proposed Measures and Strategies would address the issues and problems identified, as well as help meet the study goals and objectives. It was pointed out to the groups that the Measures and Strategies were developed to address the goals and objectives of the study. The Measures and Strategies were developed through a combination of expert and stakeholder input, research, and public outreach. The Measures and Strategies that were presented to the groups will continue to be refined throughout the study, as this is an iterative process with several opportunities to provide input.

Each of the four breakout groups discussed the same six topics and were asked the same questions about the six topics:

- What questions do you have related to any of the Measures and Strategies?
- Do you feel that every issue has at least one measure that addresses that issue?
- Are there changes or refinements to the Measures and Strategies that you would suggest?
- Would you add any new Measures and Strategies?
- Do you have ideas about locations or opportunity areas for any of these Measures and Strategies?

At the beginning of each breakout session, a volunteer was selected to present a report back to the entire group summarizing their discussion at the end of the workshop.

Workshop Agenda

The meeting agenda for each day are summarized as follows:

Thursday, January 21, 2021

1:00 – 1:15 Welcome / Study Overview and Discussion of Meeting Purpose and Outcomes – Laura Totten and Julie MacLachlan (USACE)
1:15 – 1:25 Review of Process for Development of Measures and Strategies – Laura Totten (USACE)
1:25 – 1:30 Charge for Breakout Groups – Stacey Roach (Olsson – USACE Consultant)
1:30 – 3:00 Breakout Group Session – Participants move to pre-assigned Group 1, 2, 3 or 4
1:30 - 1:40 Breakout Group Participants Introductions
1:40 – 3:00 Review / Refine / Generate Ideas
- *Review of 3 topic areas*
  - *Flood Risk Management*
  - *Sediment Management and Reservoir Sustainability*
  - *Water Supply and Drought*

3:00 – 3:45 Report Back – Group 1, 2, 3 and 4 Representatives
3:45 – 4:00 Wrap-up – Laura Totten (USACE)
4:00 Adjourn

Tuesday, January 26, 2021

9:00 – 9:15 Welcome/ Study Overview and Discussion of Meeting Purpose and Outcomes – Laura Totten and Julie MacLachlan (USACE)
9:15 – 9:25 Review of Process for Development of Measures and Strategies – Laura Totten (USACE)
9:25 – 9:30 Charge for Breakout Groups – Stacey Roach (Olsson – USACE Consultant)
9:30 – 11:15 Breakout Group Session - Participants move to pre-assigned Group 1, 2, 3 or 4
9:30 – 9:40 Breakout Group Participants Introductions
9:40 – 11:15 Review / Refine / Generate Ideas
- *Review of 3 topic areas*
  - *Water Quality*
  - *Recreation*
  - *Ecosystem Restoration and Management*

11:15 – 11:45 Report Back – Group 1, 2, 3 and 4 Representatives
11:45 – 12:00 Wrap-up – Laura Totten (USACE)
12:00 Adjourn

Prior to the workshop, participants received copies of the agenda and read-ahead materials including: 1) the Kansas River Reservoirs Flood and Sediment Study Executive Summary; 2) the Kansas River Reservoirs Flood and Sediment Study, November 2019 Small Group Workshop Summary, and 3) the Measures and Strategies worksheet. The agenda, read-ahead materials, and introductory presentations given at the beginning of each day are provided in Attachment 1, 2 and 3, respectively.

Summary of Discussion

The discussion related to each of the six topic areas is summarized below by topic. The summaries cannot begin to describe all of the important topics the participants discussed, and therefore, the full record of the discussion within each of the four breakout groups is included in Attachment 4. The summaries bring out

some of the highlights of the discussions that were emphasized in the topics presented in the report back by each individual group. Most often, the group discussions followed the list of Measures and Strategies listed in the workbook for each topic, and as such, the following summaries are organized similarly.

Flood Risk Management

The discussion on Flood Risk Management (FRM) began with the participants reviewing the FRM Measures and Strategies provided in the read-ahead materials: Water Control Manual Update; Missouri River Control Point Modification; New or Modified Levees/Dikes/Floodwalls; New Reservoir/Dam Construction or Detention Basins; Channel Modifications; High Flow Diversions; Sediment Management Measures and Strategies; Promote and Incentivize the Adoption of Practices in the Watershed; Comprehensive Climate Plan/Extreme Event Planning/Drought Resiliency Plan; Kansas Flood Center/Flood Information System; Floodplain Regulations; Flood and Drought Forecasting; Flood Warning/Emergency Plans; Floodplain Mapping; Widen Choke Point below the Waverly Control Point; Authority for Land Acquisition or Easement Purchase for Flood Control; Floodplain Management Plans; and Flood Risk Studies (See Attachment 2, Read-Ahead Materials, Measures and Strategies). The discussions included agreement on the many strategies listed in the workbook. The groups' focus varied from structural and control measures such as water control manual updates to more natural solutions such as planting riparian vegetation adjacent to the rivers and streams to minimize flood risk.

Beginning with the operational and control measures, the participants agreed on the importance of reviewing and revising the reservoir operational control manuals even though it is a difficult process that includes NEPA evaluations and coordination across multiple agencies. The main concern vocalized by participants in one breakout session, was to allow more flexibility in controlling releases during flood events to avoid having to work under a deviation to the manual for an extended period of time. Participants also discussed potential modifications to the Missouri River control point at Waverly and how this topic was connected to the operational manuals. Many participants agreed that the Waverly control point is an important focus. One participant asked and it was confirmed that the USACE uses a 'system of systems' approach to manage the reservoirs. Operations manual revisions could include consideration of managing the system to hold the peak longer at the Waverly control point to help reduce flood risk in Kansas and investigate adjusting the criteria for releases (e.g., allow for releases to backfill in behind the peak of the flood hydrograph at Waverly). Additionally, participants mentioned that releases for USBR reservoirs are not considered as part of the constraints at the Waverly control point and that both USBR and USACE releases should be considered. While the Watershed Study will not authorize these types of measures/strategies, a recommendation could be developed based on assessment by the study team for future consideration (e.g., USACE study to review/update operations manual(s)). The participant followed up with a question about whether artificial intelligence could be used to help solve the problems. This novel idea was emphasized in other groups through their discussions on the need to use the latest technologies (like LiDAR) to solve this complex problem and updating this type of information on a more frequent basis.

Natural solutions were discussed as solutions to support flood risk management. Installation of wetlands to provide better water infiltration was one suggestion, possibly near the Waverly control point. Levee setbacks through the purchase of farmland was discussed by several groups to allow more access for high flows onto the floodplain and reduce flood damages. Recommendations for levee setbacks on the Missouri River are better made under the Lower Missouri River Flood Study. These natural solutions and other practices such as protecting and restoring forests above and below reservoirs could promote water infiltration and help mitigate flood surges. Often, these measures require willing sellers of private land adjacent to the river or streams or landowners willing to adopt these practices. Looking at policies or

programs to allow financial incentives to landowners could be helpful as previously it has been difficult to find willing landowners. USACE has several authorities for ecosystem restoration (e.g., Continuing Authorities Program, Planning Assistance to States) that could be used to support this measure.

Several groups brought up the importance of flood warning/emergency communication and coordination between Kansas Emergency Management and communities. One group suggested adding an additional measure to the Measures and Strategies matrix to increase communication/enhance information sharing mechanisms between all Kansas River stakeholders to improve coordination across the watershed. More gages and live data representing local conditions would be helpful to support monitoring, modeling, and mapping. When there is short notice time, it would be helpful to provide information more quickly to modelers for scenario analysis to get warning out to the public more quickly.

Sediment Management and Reservoir Sustainability

Participants discussed the Measures and Strategies listed in the workbook for Sediment Management and Reservoir Sustainability: Bank Stabilization; Stabilize Headcuts; Promote and Incentivize the Adoption of Practices in the Watershed; Re-Purpose Upper Reservoir Areas to Capture Sediment; Drawdown Flush at Tuttle Creek Lake; Water Injection Dredging; Hydrosuction; In-lake Hydraulic Dredging; and Sediment Mining (See Attachment 2, Read-Ahead Materials, Measures and Strategies). The Measures and Strategies discussed to address sediment management and reservoir sustainability were broken in to two main categories: 1) those that would occur within the lake such as reservoir drawdowns, hydro-suction, in-lake dredging and sediment mining, 2) those that would occur outside the lake footprint such as bank stabilization, stabilizing headcuts, promoting and incentivizing best management practices (BMPs), re-purposing upper reservoir areas to capture sediment, and outreach to the State of Nebraska on their sediment management practices.

Before summarizing the topics that were important to the stakeholders, it is important to note that several of the groups pointed out that sediment management was interrelated with all the other issues discussed in the workshop and that many of the Measures and Strategies for sediment management have additional impacts to issues related to water supply, water quality, and more. For example, one group discussed multiple natural sediment management solutions such as beaver dam construction as measures that would have positive impacts on flood reduction as well as sediment management.

The discussion on in-lake Measures and Strategies began with Water Injection Dredging (WID). Several participants agreed that WID was an exciting and cost-effective measure. One group went so far as to say a WID demonstration was a “must do” activity on the list of Measures and Strategies discussed for the program. Others noted that dredging activities will have an effect on downstream water quality/turbidity and that downstream water users including recreators and water supply operators may be impacted. The groups acknowledged that reducing sedimentation is vital to maintaining water supply and that finding a balance in the measures and identifying the tradeoffs/impacts is an important aspect of sediment management. Another point that carried across several groups was to put more emphasis on streams in the upper portions of the watershed to minimize sedimentation.

Another in-lake measure that was discussed in detail was a drawdown flush. Specifically, drawing Tuttle Creek Lake down all the way to its original channel for 2-3 weeks. Questions about this measure included the potential impacts to downstream water supply and industrial users, fisheries, and recreational users. Specifically, for the City of Topeka, it was noted that total suspended solids have not been an issue to date due to their sedimentation basin. One participant asked that if this is considered it should be done opportunistically (e.g., during local events to erode sediment further) and others recommended timing the flush to reduce possible effects to downstream municipalities. The drawdown flush measure at Tuttle

Creek Lake would require planning for water storage and release using a systems approach (i.e., using Milford and Perry Reservoirs to meet downstream flow requirements until Tuttle refills). To summarize the comments on this topic from several groups, the cumulative impact of this strategy would need to be investigated prior to implementation.

Regarding the measures that would occur outside the reservoir footprints, BMPs were discussed in varying amounts of detail. A question that popped up in more than one discussion was, "what are the most effective measures – or the best bang for the buck?" No specific answers were given because the answer is often site-specific. Another was, "How do we measure the effectiveness of the watershed practices implemented to catch sediment and prevent erosion?" While no clear answer to the question emerged, ideas included in-lake or project site (e.g., bank stabilization projects) monitoring and assessment of hotspots using artificial technologies (e.g. LiDAR). However, it was noted that bank stabilization projects, while helpful, only provide a minimal amount of reduction in sedimentation coming into the reservoirs (i.e., over a 30-year period all bank stabilization measures that have been constructed only prevent one year worth of sediment coming into Tuttle Creek Reservoir). Others thought that bank stabilization measures should be accompanied by hydraulic modeling (HEC-RAS) to better understand the impact of flood events on a project and support better design elements. One participant commented on the importance of coordination with the state of Nebraska, discussing the contribution to sedimentation coming from the Nebraska portion of the Basin, and ideas to work together to promote basin wide BMPs. It was pointed out that coordination and studies were underway to answer some of these questions, but that these questions are important and will be noted.

In at least one group, the recommendation to complete a sediment management study at Tuttle Creek Lake was presented as a solution. This has been identified as a spin-off study under the Watershed Study and the solution for sediment reduction in Tuttle Creek Lake (and other reservoirs) would likely require multiple measures (e.g., BMPs in upper watershed coupled with WID and traditional dredging).

Water Supply and Drought

Participants discussed the Measures and Strategies listed in the workbook for Water Supply and Drought: Sediment Management Measures and Strategies; Removal of Navigational Releases at Tuttle, Perry, and Milford; Sediment Management to Preserve Water Supply Capacity; Comprehensive Climate Plan/Extreme Event Planning/Drought Resiliency Plan; KS River Alluvial System Utilized as a Filtration and Storage System; Promote and Incentivize the Adoption of BMPs in the Watershed; Reallocation; Repurposing of Water Supply Storage to Water Quality Storage; Modification of Low Flow Target Values to Extend Period of Low Flow Support; and Drought Contingency Plan Updates (See Attachment 2, Read-Ahead Materials, Measures and Strategies).

Several of the Measures and Strategies to address water supply and drought were discussed in detail in the breakout groups. The importance of a Comprehensive Climate Plan, Extreme Event Planning, and/or Drought Resiliency Plan was noted in several discussions. There could be some latitude to develop a plan that allows management of flows during drought to address low water conditions in downstream reaches. There could be flexibility in the existing reservoir control manuals or the system operating plans to adjust operations without going through a deviation request. Exploring the possibility of establishing a minimum flow level for the river was another topic discussed by several groups. It was agreed by one group to add language to the water supply measures to "establish a minimum flow in addition to a target". One group identified that moving the low flow target to earlier in the operational plan to allow for a longer period of time in which the flow target can be met may potentially be a "low hanging fruit" with the opportunity to address water supply/drought issues. A participant suggested looking at gage data to evaluate the

relationship between water level and flow rate to get a corresponding target. Participants suggested that a recommendation could be made for a Comprehensive Climate Plan/Extreme Event Planning/Drought Resiliency Plan as a spin-off study from the Watershed Study and that this should be statewide.

Another group succinctly stated that the quality of water is equally as important as the quantity. This led to a discussion on the serious water quality issues at Milford. The issues noted were smells (like chlorine) when the river is low and excess algae leading to Harmful Algal Blooms (HABs). There were also concerns raised about continued use of water storage from time to time to mitigate high water salinity and potentially limits to water availability during drought conditions.

Other groups discussed the fact that any project should be cost-effective. This discussion included investigating new opportunities for small reservoirs or bodies of water that could help with water supply issues. At least one group reiterated the need for new reservoir operations manuals with updated action steps to address water supply and drought. This could also include reevaluation of the timing of navigational releases but that more information is needed on this subject and that potentially the information gained could be used to support the Lower Missouri Navigational Study, which is scheduled to begin soon. Currently, navigation releases can be made if needed using storage from Milford, Perry, and Tuttle Creek Reservoirs. Concerns were made about the future burden on Tuttle Creek Lake if all water supply contracts at Milford and Perry are fully in-service leaving navigation releases available only from Tuttle Creek Reservoir. The study team should assess this, especially with potential future sedimentation and reduced multipurpose pool water storage at Tuttle Creek Reservoir.

Water Quality

Participants discussed the Measures and Strategies listed in the workbook for water quality: Promote and Incentivize the Adoption of BMPs; Operate Milford, Perry, and Tuttle Creek Reservoirs as a System; Repurposing of Water Supply Storage to Water Quality Storage; Construct and Maintain Wetlands and Rehabilitate Old Oxbows; Operational Strategies for HAB Management in Inland Reservoirs; and finally, HAB research and treatment (See Attachment 2, Read-Ahead Materials, Measures and Strategies). Participants were in general agreement with the Measures and Strategies listed in the workbook. One group noted that some measures may have positive outcomes for water quality but may not meet the objectives of other aspects of the Watershed Study.

When reviewing these Measures and Strategies listed for water quality, several participants pointed out that what may be good for one aspect of watershed management may be harmful in another. The example given was at Tuttle Creek Lake where turbidity is its greatest asset in fighting Harmful Algal Blooms (HABs). With greater water clarity that would come with sediment management efforts, an unintended consequence may be more algal blooms. The water clarity may be a positive for water quality and for recreators initially, but ultimately, it may lead to more HABs which would be a detriment to both. The statement was made that it is important to deal with both nutrients and sediment, otherwise, "we exchange a brown lake for a green lake."

Several participants and one written comment submitted prior to the meeting pointed to the importance of water level management on water quality -- water levels influence watershed management in many ways including fish population, infrastructure, waterfowl, boating opportunities and more. To address this important issue, several breakout groups focused on setting target flows for water quality as a viable option. Some noted they would prefer the term "in-stream flow" instead of "minimum desirable flow". Water quality experts that participated stated that pool level management appears to be the best way to manage HABs, as treatment measures are an exorbitant process, very costly, time consuming, and have short-lived benefits.

Participants noted that most water quality issues are related to sediment management. The breakout groups agreed with the measure promoting the adoption of BMPs, and participants noted that willing landowner participation is important to the success of this measure, along with financial support. In at least one group, the importance of monitoring effectiveness of the practices was reiterated, and they noted that it should be added to the Measures and Strategies. Another strategy that was emphasized was to reconnect rivers to oxbows or wetlands to reduce flooding and increase infiltration which can reduce direct runoff and water quality issues. The Kansas Regional Advisory Committee has worked on goals related to improving water quality using natural solutions, and once approved, the RAC will provide them to the study team to include as appropriate.

The focus of the discussions on this subject varied in the breakout groups. For example, in one group, the initial discussion focused on bromides and other water quality issues based on the ongoing research by Richard Rockel (KWO) (see Breakout Group 3 Session 2 notes for more detail). This breakout group proposed the need to establish low-flow targets to meet downstream water quality standards for public water systems and instream flow usage. They noted that flows below 1,000 cubic feet per second were not ideal. In another group, the issue of water temperature came up as a water quality issue because of the impact to fisheries. In another, they summarized some of the priorities not listed above as follows:

- Compliment the study with goals for wildlife and fish
- Survey areas that are critical for aquatic species
- Analyze and refer to the success of other states regarding maintaining wetlands
- Create policies that will help engage the farmers and make the risks of flooding known to the public through effective communication

Groups generally agreed that there is a need to consider reallocation or repurposing of water supply storage not being used for direct consumptive purposes to water quality at Perry and Milford Reservoirs. If this moves forward, participants stressed that storage that is repurposed be used only for specific purposes (i.e., water quality releases).

Ultimately, the importance of water quality was confirmed by the length of time spent in each breakout group on this topic.

Recreation

Participants discussed the Measures and Strategies listed in the workbook for Recreation: Sediment Management Measures and Strategies; Flood Risk Management Measures and Strategies; Promote and Incentivize the Adoption of BMPs in the Watershed; Operate Reservoirs to Comply with Water Level Management Plans; Water Quality Measures/Strategies; Public River Access Points Along the Kansas River Mainstem; Removal of Navigational Releases at Tuttle, Perry, and Milford; Expansion/Improvement of Visitation Data; Construct New Boat Ramps or Extend Existing Boat Ramps; and Comprehensive Climate Plan/Extreme Event Planning/Drought Resiliency Plan (See Attachment 2, Read-Ahead Materials, Measures and Strategies). Along with these items, a few new items were added from the breakout groups:

1. The potential for structural modifications to retain sediment higher in the reservoir pools before it gets to the main body of the reservoir. This could be accomplished using current embankments or infrastructure to concentrate sediment drop out. For example, above bridges at Milford, Tuttle, and Perry.
2. The potential for the USACE to purchase property at Waverly to allow for improved water flow characteristics that could not only support recreation but watershed health.

3. If additional access points/facilities are built, there is a need to increase the support needed to maintain these facilities. Specifically community partnerships need to be in place that will include, for example, rescue boats if none are available in the area.

When discussing recreation, the topic of revisions to water control manuals came up with several participants, and they reiterated the importance of local control. For example, the point was made that more local control and communication between USACE and KDWPT to discuss lake level options that support fish, wildlife, and recreation is needed. Local control over river releases would help with recreational events and planning as events are frequently canceled due to high flows since now, releases seem based on the needs of the Missouri River.

Regarding recreation, one group's summary hit upon many of the topics discussed in all. They stated that for recreation, the Milford Regional Conservation Partnership is a good example of how to support recreation. BMPs such as wetland creation, riparian plantings, buffer strips that create wildlife habitat and wildlife corridors also provide opportunities for hunting. Buffer plantings would also help with reconnection of the floodplain and preservation of wetlands and provide benefits to fish and wildlife. Education and communication with the public on these types of practices and the benefits they provide to recreation is important and critical to buy-in and support for projects.

The group supported sediment management within the reservoir. Future sedimentation could lead to reduced recreational opportunities at reservoirs from reduced access, closure of facilities, safety concerns, and loss of habitat (e.g., boat ramps unusable, loss of cove habitat for fisheries, water too shallow for boating). They agreed that there is benefit to fisheries with lower lake levels due to the habitat created. They also stated that flexibility at the Waverly control point and revisions to the water control manuals that allow for this flexibility are needed. Future climate change was also discussed as something that should be considered and the need to perform additional research and data collection to better project changes to possibly incorporate into operations planning for reservoirs and river reaches.

KDWPT staff commented that one of the biggest challenges is revenue for the boating program. There is money available, but currently, there is need for means to more fully capture those federal funding opportunities that support boating infrastructure. Other participants also noted that there are several safety concerns related to river recreation and dredging cables and high-water conditions.

Ecosystem Restoration and Management

Participants discussed the Measures and Strategies listed in the workbook for Ecosystem Restoration and Management: Sediment Management Measures and Strategies; Flood Risk Management Measures and Strategies; Promote and Incentivize the Adoption of BMPs in the Watershed; Lake Level Management Plans; Water Quality Measures/Strategies; Comprehensive Climate Plan/Extreme Event Planning/Drought Resiliency Plan; Removal of Navigational Releases at Tuttle, Perry, and Milford; Invasive/Non-Native Species Measures; Invasive Species Control; and Habitat Development Projects/Partnerships (See Attachment 2, Read-Ahead Materials, Measures and Strategies). General comments on this topic included the statement that the USBR is too focused on irrigation and needs to have a more balanced approach that includes the entire ecosystem. Several breakout groups talked extensively on the need for re-wilding the river system whereas other groups focused on invasive species.

As noted in other discussions, sedimentation affects all aspects of watershed health. There were questions about how changes in total suspended solids would impact ecosystems and that some native species would benefit from a bit more turbidity. The question came up about what a natural turbidity range would be, and there was some discussion about how the Sustainable Rivers Project may have some information

on this for certain species. The group noted that this should be added to the Sediment Management Measures and Strategies workbook for ecosystem restoration.

Reservoir releases can negatively impact fisheries, and participants would like to see more consideration of this during Lake Level Management Plans planning discussions, with more communication between USACE and KDWPT district fisheries staff to discuss lake level options to support fish and wildlife. One participant also commented that habitat construction projects should target locations that would support multiple ecosystem service benefits. Another participant asked that protection of riparian forests be added under the "adoption of practices in the watershed" measure. Participants also support repurposing of water storage in Perry and Milford to water quality to supplement low water conditions in the river to benefit fish and wildlife and reconnection of the floodplain in targeted areas. Improved fish passage projects and removal of passage blockage on the Kansas River would benefit fish species and could be added as a measure. Monitoring was noted as an important piece when taking any management action for ecosystem creation or restoration to determine how species are responding and allow for adaptive management. The point of using natural solutions was reiterated for ecosystem restoration and management measures as well.

Invasive species were a topic of several breakout group discussions. Genetic modifications to invasive species such as Asian carp was one group's focus. They agreed that it might be worth looking at adding that to the list of measures. Additional watercraft inspection facilities were also noted as needed for the watershed along with cross-state cooperation to monitor and track the invasive species. Some participants suggested that the study look at invasive species that are not associated with aquatic habitats in addition to aquatic nuisance species. There is also a need for more outreach and education to the public on invasive species. Similar to recreation, there is federal funding available for invasive species management that requires a state funding match. Currently, it is hard for the state to provide matching funds, missing out on this opportunity. Some of the funding has been captured and will be used to expand watercraft inspection and decontamination efforts and Asian carp control efforts. A measure could be added to state "Increased facilities for boat decontamination and watercraft inspection" and "Cross state cooperation to monitor and track potential boats of issue as they move to other waters".

Interestingly, although it was not a topic on the list, several groups noted funding options at the end of the breakout discussions. The options discussed included programs through Ducks Unlimited that supporting ecosystem benefits. Others noted the need to look at new federal funding or grants for invasive species controls or the federal administration's infrastructure plan. The importance of public/private partnerships was discussed in one breakout group as essential to addressing the funding needs of the projects identified in the Watershed Study. USACE has several authorities for ecosystem restoration (e.g., Continuing Authorities Program, Planning Assistance to States) that could be used to support these measures. Potential ideas for projects at specific locations would be helpful to the study team and can be added as a recommendation for a spin-off study from the Watershed Study. A further step by the study team should be to identify what level projects could be funded at (i.e., national, state, regional). One participant suggested a Task Force could be created to discuss options and funding.

Follow-up Questions/Comments

Along with these discussions, several questions/follow-up items were raised:

- Can the slides from Richard Rockel's presentation be made available to the group?

- Can a more detailed idea or timeline of when ramps, coves and nursery areas will be impacted by increased sedimentation be provided. This will affect recreation and many other aspects of watershed management.
- A map of the Ordinary High Water Mark (OHWM) would be beneficial.
- Is the documentation from the Sustainable Rivers Program available from the USACE Kansas City District? There may be some flow recommendations that would be interesting to see in the report.
- Are phragmites an issue on the Kansas River?
- A short training or introduction on how to use the website (Access to Water) may be prudent as it can be difficult to navigate.
- Clarification on the OHWM rule and enforcement.
- Clarification on whether bank stabilization is happening on private property or within the USACE easement.
- It was emphasized that optimization of nature-based solutions is important, and this was reiterated by one participant that noted reforestation is popular around the world. If we plant a million trees within the watershed, it will help sediment management, wildlife, carbon sequestration, and other items.

As a final note, several groups cautioned that there are often competing measures and that a measure that is helpful meeting one goal is not helpful in meeting another. The participants stated that the Watershed Study should address balancing competing interests and measures.

US BUREAU OF RECLAMATION COORDINATION MEETING

Kansas River Reservoirs Flood and Sediment Study

Kansas River Reservoirs Flood and Sediment Study USBR Coordination Meeting
10:30 a.m. – 12:30 p.m., Thursday, June 24, 2021
KDWPT Region 1 Office, Hays, KS

Attendees:

Name	*Agency/Title*	*Name*	*Representing*
Aaron Thompson	USBR, Area Manager	Jennifer Switzer	USACE, Planning Branch Chief
Aung Hla	USBR, Water Management and Planning Group	Jeff Tripe	USACE, Plan Formulation Section Chief
Josh Neuffer	USBR, Natural Resource Specialist	Laura Totten	USACE, Project Manager/Planner
Steve Adams	KDWPT, Chief of Operations	Jennifer Henggeler	USACE, Economist
Lynn Davignon	Regional Fisheries Supervisor	Brian Twombly	USACE, Engineer
John Reinke	Regional Fisheries Supervisor	John Shelley	USACE, Engineer
Steve Seibel	Regional Parks Supervisor	Sophie Wayne	USACE, Economist
Nathan Westrup	KWO, Chief of Hydrology & Evaluation	Josh Olson	KWO, Water Resource Planner
Kirk Tjelemand	KWO, Chief of Planning	Richard Rockel	KWO, Water Resource Planner

1. The Kansas River Reservoirs Flood and Sediment Study (Watershed Study) Project Delivery Team (PDT) hosted a Coordination Meeting on 24 June 2021 for the Kansas River Reservoirs Flood and Sediment Study, KS, CO & NE (Watershed Study). The purpose of the meeting was to allow the study partners for the Watershed Study an opportunity to coordinate with the U.S. Bureau of Reclamation (USBR) on the overall study objectives and framework. During this meeting a study overview was provided followed by questions, comments, or concerns that the USBR has related to the study. Additionally, there was discussion of identification of any areas where the study partners and the USBR can work together on proposed measures to address issues and problems in the watershed.

This is a "rare" study for the USACE that will provide a comprehensive basin-wide management plan that will inform multiple audiences and decision makers at all levels of government and provide a strategic roadmap to inform future investment decisions by multiple agencies. The Watershed Study is an opportunity to assess the viability of potential future projects to address issues and problems identified in the Kansas River Basin.

2. The USACE provided a slide presentation (see Attachment) that included:

a) <u>Study Overview</u>

- Study Area
- Watershed Study Process – 3 Milestones (Shared Vision, Recommendations, Watershed Study Report)
- Problems Facing the Basin in the Next 50 Years
- Study Scope – 3 Primary Focus Areas (Flood Risk Management, Sediment Management, Reservoir Operations); also looking at Infrastructure Investment, Water Supply Availability and Sustainment, Water Quality, Recreation, Ecosystem Preservation and Restoration
- Study Goals and Objectives

b) Future Without Project Conditions

i. Water Management

- The USACE has built a HEC Res-Sim model for the lower 7 reservoirs plus the Missouri River gages and is using this to assess Existing Conditions and Future Without Project (FWOP) conditions.
- Data: 1920-2019. The model was run for the Existing Conditions and documentation is currently going through USACE review.
- FWOP will evaluate future sediment impacting storage, water quality, recreation, and fish and wildlife.
- FWOP scenarios (with and without navigation flows) are being modeled for 2024, 2049, 2074 and 2124.
- Future reductions in reservoir multipurpose pool storage from sedimentation and increased drought.
    - Decreased recreation opportunities and reduction in economic benefits
    - Unable to meet release requirements for downstream use
    - Loss of fish and wildlife habitat
    - Water quality concerns
    - Loss of flood control storage may result in more frequent reservoir surcharge operations

ii. Sediment Management

- Future sedimentation in reservoir threatens:
    - Crucial flood risk management infrastructure (could impede the ability to maintain the function of flood control gates and other appurtenances)
    - Critical drinking water supply
    - Recreation
    - Irrigation
    - Environmental resources
    - Continued bed degradation and habitat impairment downstream of dams from lack of sediment
- And will result in increased operations and maintenance costs
- The USACE has prepared sediment assessment for the USACE and USBR reservoirs in the basin. The approach used for the USBR reservoirs differs from the USACE reservoir assessment. The assessment shows that the storage capacity has decreased for many reservoirs. Lovewell has the most significant sediment impacts with Waconda showing high amount of sedimentation expected in the future.
- The USBR has done sediment surveys every 20 years and are seeing the same types of trends under existing conditions as seen in the study assessment. The USBR has not done any future projection sediment assessments.
- The USACE is working with the State of Kansas to propose a Water Injection Dredging (WID) demonstration at Tuttle Creek Reservoir. This could be a management measures, along with other measures (e.g., hydrosuction) that may be viable ways to manage sediment at USACE and USBR reservoirs. The demonstration would provide information on the effectiveness of the WID technology.

iii. Water Supply/Water Quality

- Future impacts to water supply/water quality:
- Increased future usage to satisfy the demands of growing populations
- Future sedimentation will reduce storage available to meet water supply demands
- Future shortages to meet all the water quality and supply demands within the basin during times of extended drought
- Future shortages to maintain a base level of streamflow
- Continued water quality impairment from agricultural runoffs at reservoirs and in river/stream reaches (17 of the 18 lakes in the basin "impaired")
- Increase in turbidity, warm-season water temperatures, and harmful algal blooms in reservoirs
- Decreased chemical buffering due to loss of reservoir storage

- The study team has received input from USBR on storage allocations and will provide the water supply assessment for the USBR to review and provide input. Additional information on needs related to water supply at USBR reservoirs would be helpful.

iv. Recreation

- Continued impacts to recreation in the future from flooding, drought, and sedimentation
  - Loss of visitation leading to lost revenue
  - Cost of damage repairs from flooding or sedimentation
  - Reduced opportunities
  - Shift in the type of uses (i.e., water-based recreation to shore-based activities)
  - River recreation impacts will continue - safety hazards and reduced opportunities
- The USBR has done a fisheries assessment to evaluate what will happen under future conditions.
- The KDWPT has recreation data from a regional parks' perspective.

v. Biological Resources

- Terrestrial and Aquatic Habitats, Fish and Wildlife, and Special Status Species
  - Overall a continued decline in the diversity of fauna and habitats from habitat loss, habitat degradation, fragmentation
  - Sedimentation in reservoirs will reduce aquatic habitat (e.g., cove habitat used for fisheries spawning and rearing) and affect the reproduction of fish species
  - Greater water level fluctuations in the future that would reduce habitat availability
  - Climate change could threaten aquatic ecosystems from sustained drought
  - Invasive species will continue to be a concern
  - Continuation of conservation measures, recovery actions, climate change adaptation strategies, and restoration projects to prevent or minimize declines of fauna and their associated habitats

c) <u>Framework for Defining Problems Areas and Initial Measures</u>

- Measures and strategies were grouped into an initial set based on primary resource topics or problem areas (i.e., FRM, ecosystem, water supply, water quality, recreation).

- The study team is currently looking at opportunity or focus areas within the watershed, starting with the 48 HUC 8 watersheds in the basin, which will allow for further grouping and more detailed assessment of management measures so that additional screening criteria and associated costs and benefits can be developed.
- The study team is planning to strategize on identifying problems within each opportunity area and who to engage. Focused meetings will be scheduled to discuss these smaller areas within the basin and determine which measures apply. The outcome of these discussions should include a broader look at solutions needed outside of USACE authorities.
- The study team is evaluating each measure against effectiveness (benefits) and efficiency (cost magnitude) using qualitative scoring based on expert knowledge and judgement.
- Magnitude of costs will also be evaluated and include – Implementation, Monitoring, AM Cost; OMRR&R Costs; Mitigation Cost.

d) Study Outcomes

- A comprehensive evaluation of the Kansas River Basin baseline and future conditions for various focus/resource areas (e.g., flood risk, drought, hydrology and hydraulics, sediment, ecosystems, recreation).
- Recommendations for actions to address identified problems (e.g., spin-off studies, off-shoot projects).
- Strategic roadmap/planning document that identifies the sequencing of priorities.
- Presentation of the study findings and recommendations for future efforts, including potential future projects and studies both near-term and long-term.

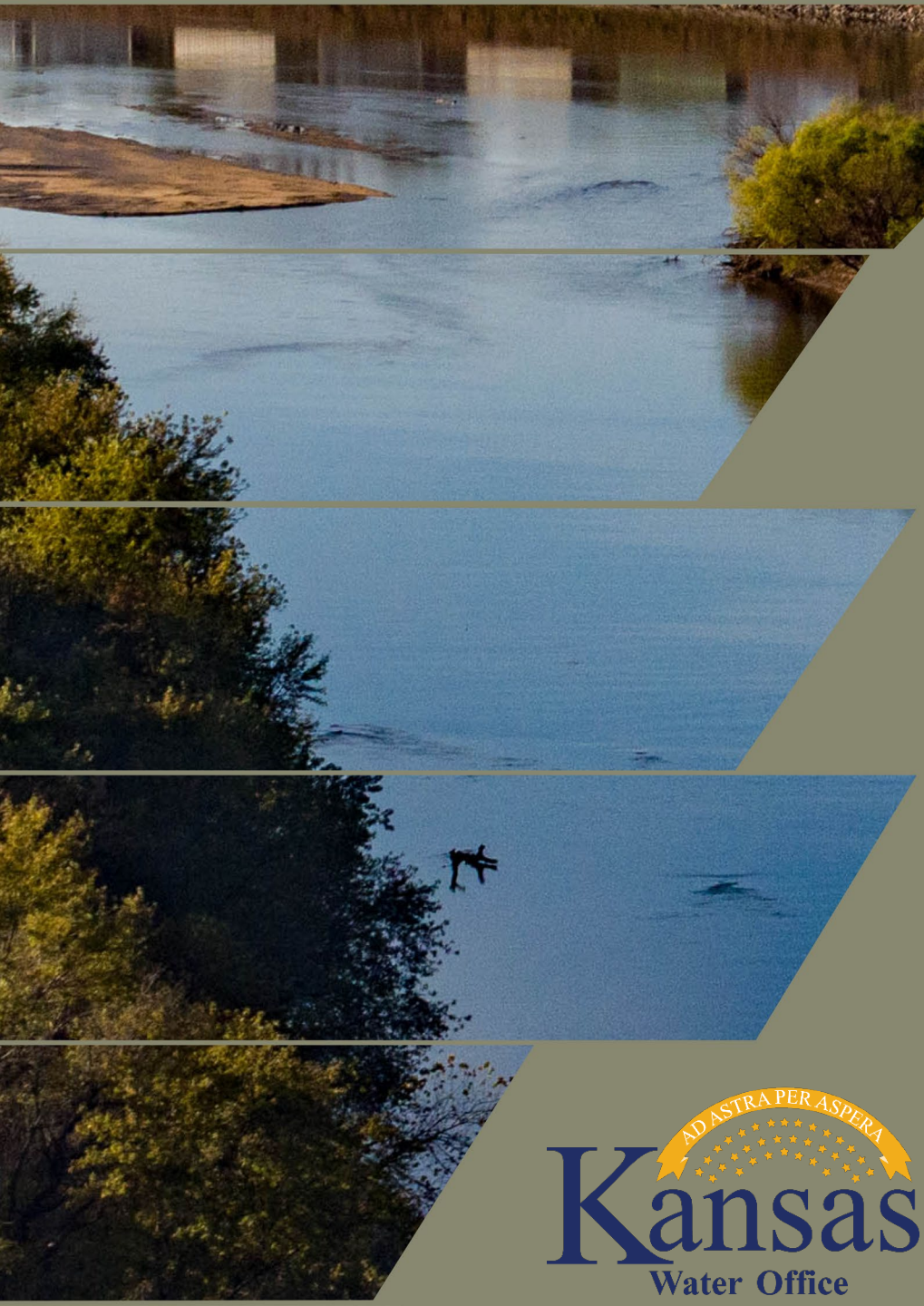
e) Schedule

Status / Date	Task / Milestone
Shared Vision Milestone	
Complete	PMP Development
Approved January 28, 2021	Review Plan Development and Approval
Complete	Initial Round of Stakeholder Coordination and Public Outreach Meetings
Complete	Decision Management Plan
Complete	Identify Problems and Opportunities
Complete	Shared Vision Statement / Goals, Objectives, and Constraints
Complete	Initial Baseline and Existing Conditions and FWOP
Initial measures developed and preliminary screening – Complete	Identify and Screen Conceptual Measures
Complete	Preparation of Study Summary Document
May 25, 2021	Shared Vision Milestone Meeting
Recommendations Milestone	
May 2021 – May 2023	Opportunity Areas Identification and Measures Applied
	Draft Existing Conditions and FWOP Complete
	Draft Existing Conditions, FWOP, and Measures Refinement
	Initial Draft Conceptual Plans
	IPR with Vertical Team

Status / Date	Task / Milestone
	Draft Recommendations
May 2023	Recommendations Milestone Meeting
Watershed Study Report	
June 2023 – Fall 2023	Develop Draft Watershed Study Report
	District Quality Control
	Agency Technical / Public / Policy Review
	Response to Comments
Fall 2023	Develop Final Watershed Study Report
January 2, 2024	Approved Final Watershed Study Report

3. Discussion

- The USBR reservoirs are managed by KDWPT for recreation, fish, and wildlife purposes under a contractual agreement.
- The USBR Water Smart Program may have some intersects with the Watershed Study and potential input of recommendations. Need to determine how this may fit under the study.
- The USBR does not anticipate large changes to irrigation going forward in terms of contractual obligations.
- The western portion of the basin is generally not under USACE control and would like USBR input on how to look at this area (e.g., scale of assessment).
- Dry periods are a big concern, water conservation measures are currently being implemented. Infrastructure related to irrigation (i.e., pipes, canals) may need to be adapted to meet future demands.
- The study team is interested in identifying future studies and needs that both the USACE and USBR have an interest in.
- The USACE is also working in partnership with The Nature Conservancy on the Sustainable River Program: Kansas River. The focus of this program is on habitat below dams and potential minor tweaks to operations to support environmental flow proposals. The USACE will send a coordination letter related to this to USBR and would like to follow up with a teleconference.
- Kansas has Regional Advisory Committees that have 14 action plans with goals for each regional area that includes some plans related to USBR reservoirs. This is currently in draft and under review but will be ready for release by September 2021.
- USBR will look at previous studies/reports that would be useful for the study team to review. They will provide these or a link to ones that would be pertinent (e.g., Lower Republican River Feasibility Study).
- Flood waters that are stored in USBR reservoirs could potentially be used for benefits to fish and wildlife or recreation. This could be assessed and ways to use this water when conditions allow.
- The study team invited USBR to attend PDT, Executive Committee, or Advisory Committee meetings.



Kansas River Reservoirs Flood and Sediment Study (Watershed Study)

Agency Coordination Meeting

24 June 2021

Kansas Water Office

US Army Corps of Engineers.

Kansas Department of Wildlife, Parks and Tourism

Study Area

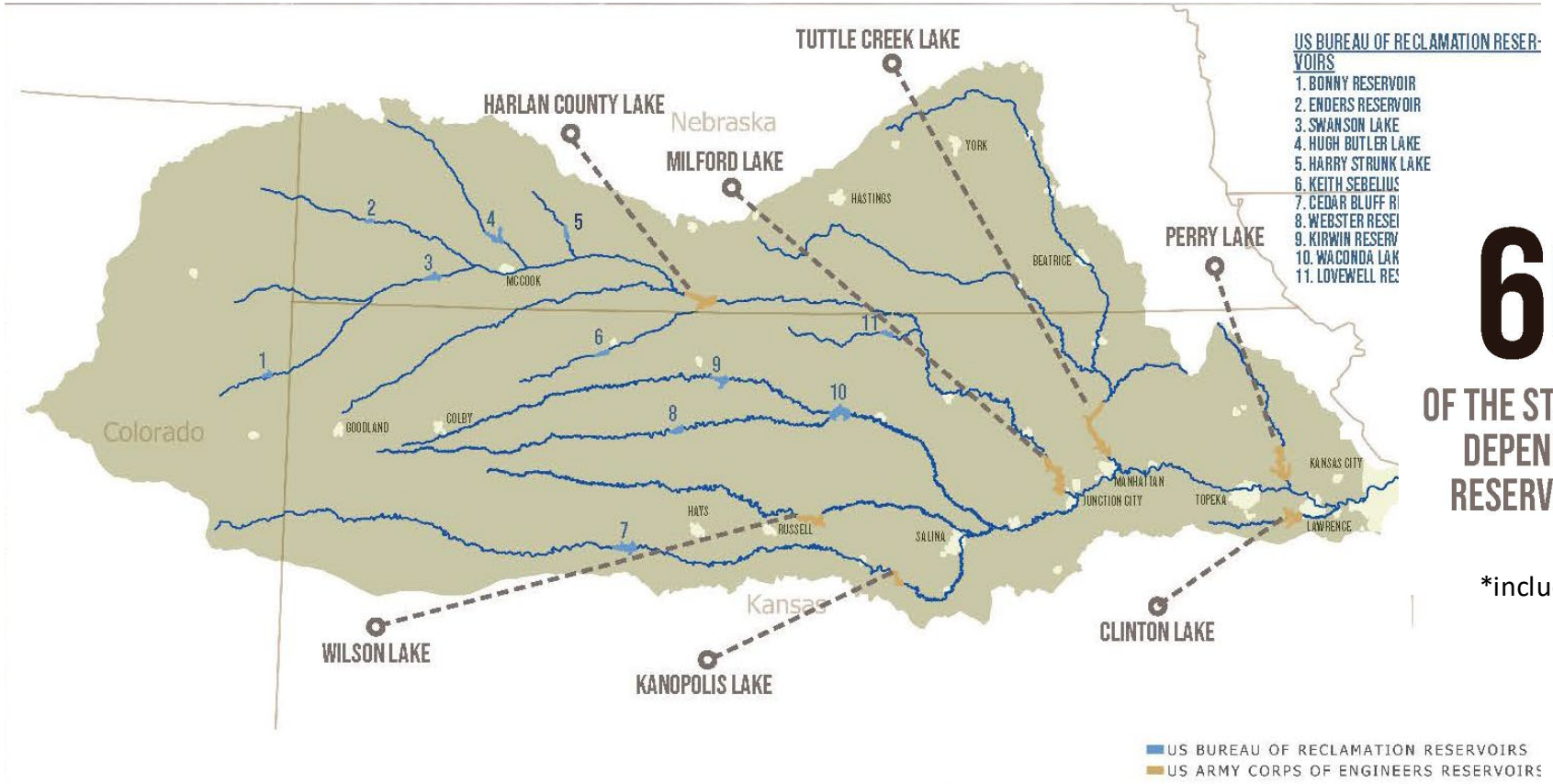
DRAINS

60,000

SQUARE MILES IN 3 STATES

$22 BILLION

USACE RESERVOIRS PREVENTED FLOOD DAMAGES SINCE CONSTRUCTION NOT INCLUDING 2019



60%

OF THE STATE'S POPULATION DEPENDS UPON USACE RESERVOIRS FOR WATER SUPPLY

*includes entire state

Watershed Study

- **Program:** General Investigation - Watershed Study authorized under Section 729 of WRDA 1986, as amended
- **Partners:** Kansas Water Office/Kansas Department of Wildlife, Parks and Tourism
- **PMs:** Laura Totten (USACE); Cara Hendricks (KWO); Steve Adams (KDWPT)
- **FCSA:** $3M – 75% federal / 25% non-federal; 5-year study

Watershed Study Process

"Watershed studies 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"

SINGLE-PHASE Watershed Studies

Conduct Annual IPR's

Identification of spin-off studies

Sign Cost-Share Agreement

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

Shared Vision Milestone

Shared Vision Milestone 1
- Shared Vision
- Study Framework
- Draft Report Summary
- Risk Register
- Decision Management Plan
- Presentation

Recommendations Milestone

Recommendations Milestone 2
- Report Summary
- Risk Register
- Decision Management Plan
- Decision Log
- Presentation

Report Milestone

Draft Watershed Plan

Concurrent Review

3 **Approval of Final Watershed Plan**

Problems Facing the Basin in Next 50 Years

INCREASING FLOOD RISK TO URBAN AREAS

REDUCED RECREATIONAL OPPORTUNITIES

RECURRING WATER QUALITY ISSUES, INCLUDING HARMFUL ALGAL BLOOMS

REDUCED FLOOD STORAGE AND WATER SUPPLY AVAILABILITY

LOSS OF WETLANDS AND RIPARIAN HABITAT

SEDIMENT FILLING RESERVOIRS

CLIMATE CHANGE IMPLICATIONS

STREAMBANK EROSION

Study Scope

- The study will focus on 3 primary focus areas:
  - Flood risk management
  - Sediment management
  - Reservoir operations

- Also looking at opportunities related to:
  - Infrastructure investment
  - Water supply availability and sustainment
  - Water quality
  - Recreation
  - Ecosystem preservation and restoration

Goals

The specific goal of this study is to assist in developing a comprehensive basin-wide management plan that will:

- Incorporate stakeholder and public input and involvement
  - Work at a sub-basin scale to identify more specific needs
- Assess existing watershed characteristics and conditions
  - Identify watershed issues and concerns
- Develop, evaluate, and prioritize conceptual plans including both structural and non-structural measures, in support of identified goals and objectives
- Identify potential “spin-off” and “off-shoot” projects that may fall under appropriate Federal, State, and/or local authorities, and
- Identify potential regional or locally funded projects.

Objectives

Objective 1: Reduce risks to life safety

Objective 2: Reduce flood risk in the study area

Objective 3: Increase the reliability, quality, and availability of water

Objective 4: Reduce impacts associated with drought risk

Objective 5: Increase adoption of watershed practices and manage sedimentation

Objective 5: Protect critical water resource infrastructure and investments

Objective 6: Protect and improve biological resources

Objective 7: Protect, promote, and expand recreational opportunities

Objective 8: Incorporate climate change assessment into resource/focus areas

Future Without Project

Water Management

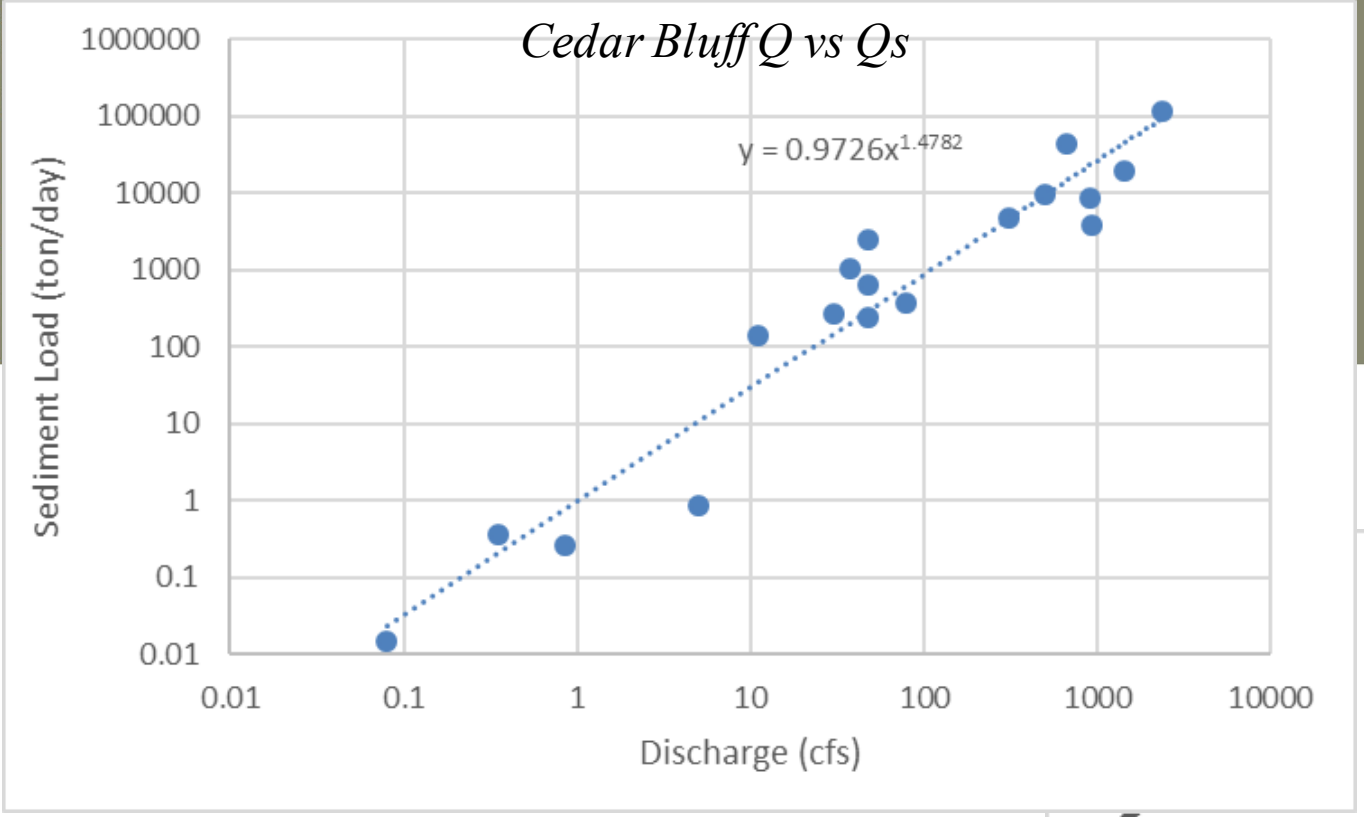
- Future reductions in reservoir multipurpose pool storage from sedimentation and increased drought
- Affects in the future of reduced storage:
  - Unable to meet releases for uses downstream (e.g., municipal and industrial water supply, water quality minimum release requirements, recreation)
  - Reduced recreation opportunities and reduction in economic benefits
  - Loss of fish and wildlife habitat
  - In-lake water quality concerns
- Loss of flood control storage may result in more frequent reservoir surcharge operations

Future Without Project

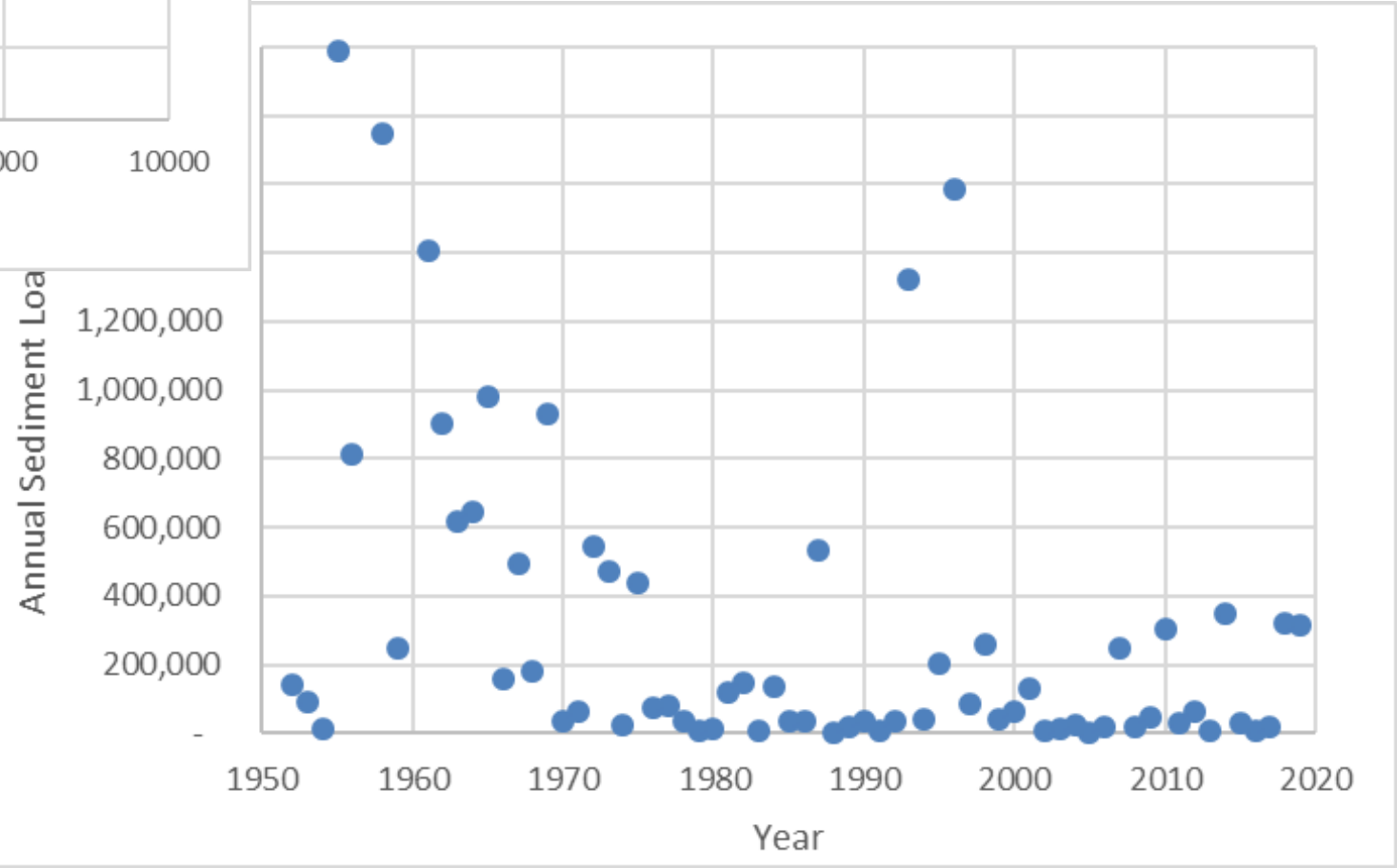
Sediment Management

- Future sedimentation in reservoirs threatens:
  - Crucial flood risk management infrastructure (could impede the ability to maintain the function of flood control gates and other appurtenances)
  - Critical drinking water supply
  - Recreation
  - Irrigation
  - Environmental resources
  - Continued bed degradation and habitat impairment downstream of dams from lack of sediment
- And will result in increased operations and maintenance costs

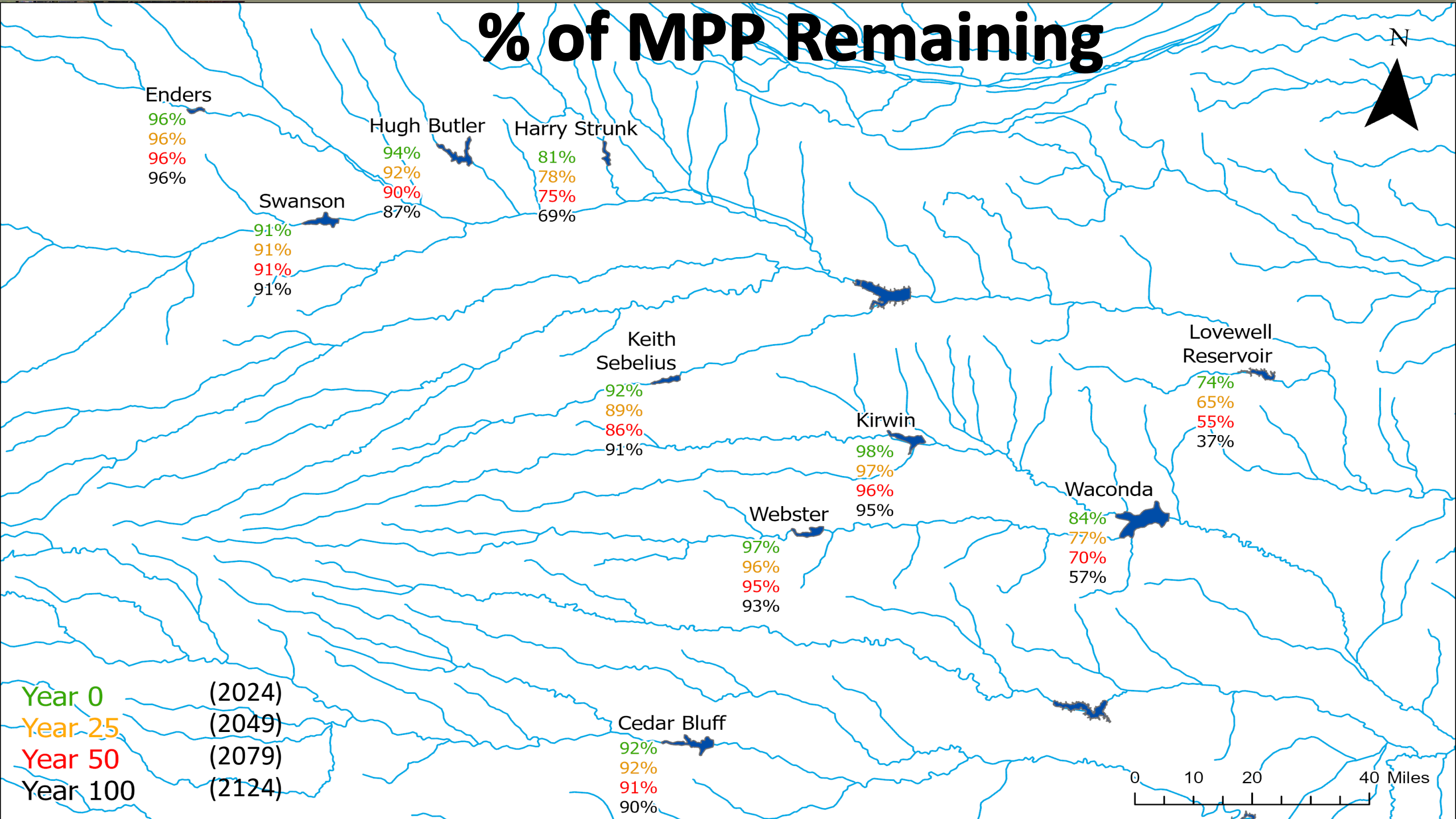
Cedar Bluff Q vs Qs



Cedar Bluff annual sediment load



% of MPP Remaining



Future Without Project

Water Supply/Water Quality

- Increased future usage to satisfy the demands of growing populations
- Future sedimentation will reduce storage available to meet water supply demands
- Future shortages to meet all the water quality and supply demands within the basin during times of extended drought
- Future shortages to maintain a base level of streamflow
- Continued water quality impairment from agricultural runoffs at reservoirs and in river/stream reaches (17 of the 18 lakes in the basin “impaired”)
- Increase in turbidity, warm-season water temperatures, and harmful algal blooms in reservoirs
- Decreased chemical buffering due to loss of reservoir storage

Future Without Project

Recreation

Continued impacts to recreation in the future from flooding, drought, and sedimentation

- Loss of visitation leading to lost revenue
- Cost of damage repairs from flooding or sedimentation
- Reduced opportunities
- Shift in the type of uses (i.e., water-based recreation to shore-based activities)
- River recreation impacts will continue - safety hazards and reduced opportunities

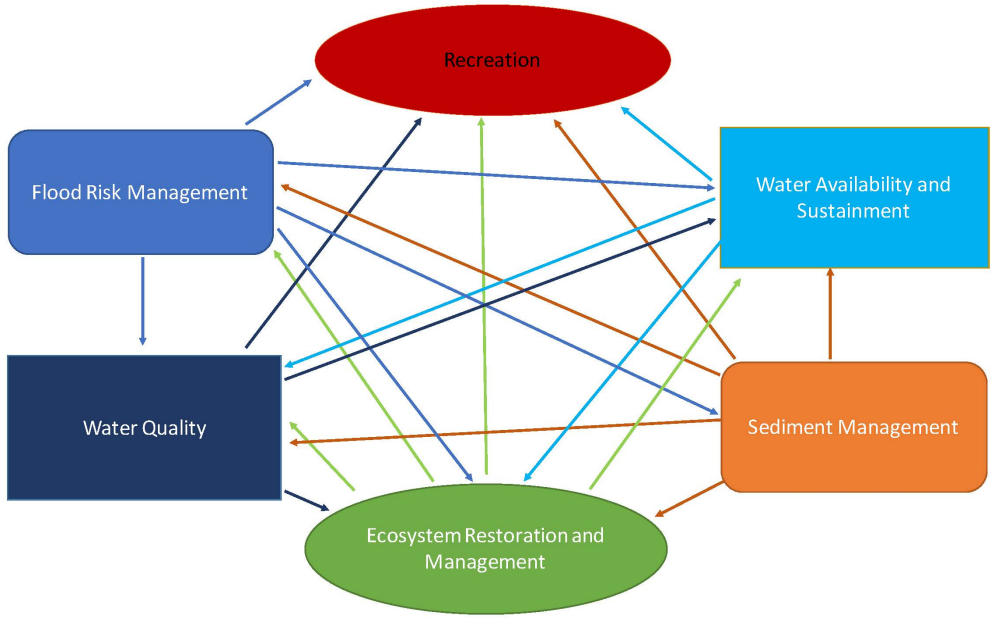
Future Without Project

Biological Resources

- Terrestrial and Aquatic Habitats, Fish and Wildlife, and Special Status Species
    - Overall a continued decline in the diversity of fauna and habitats from habitat loss, habitat degradation, fragmentation
    - Sedimentation in reservoirs will reduce aquatic habitat (e.g., cove habitat used for fisheries spawning and rearing) and affect the reproduction of fish species
    - Greater water level fluctuations in the future that would reduce habitat availability
    - Climate change could threaten aquatic ecosystems from sustained drought
    - Invasive species will continue to be a concern
    - Continuation of conservation measures, recovery actions, climate change adaptation strategies, and restoration projects to prevent or minimize declines of fauna and their associated habitats

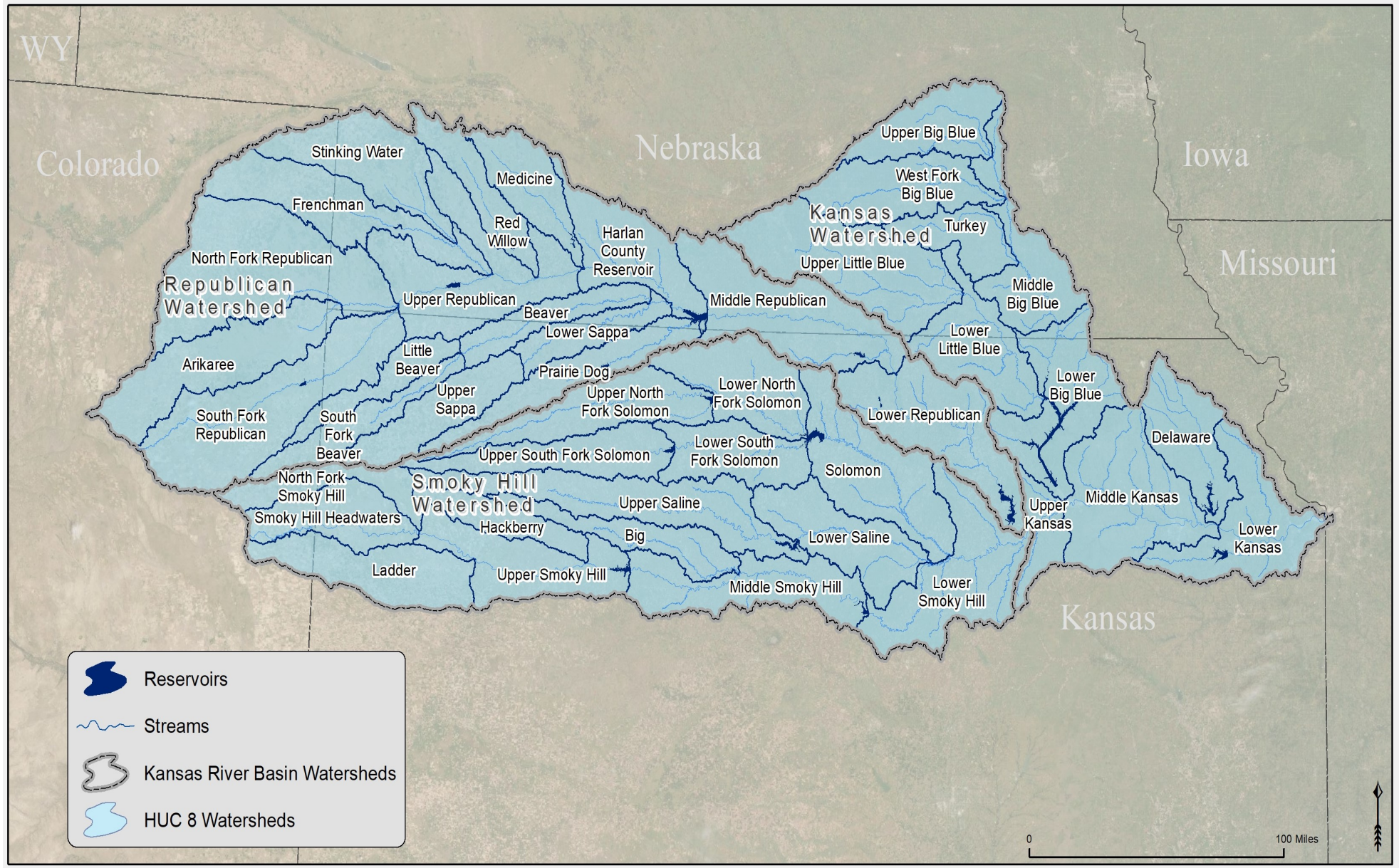
Framework for Defining Problem Areas and Initial Measures

- Initial measures development ***identifies possible management measures*** that ***support shared vision statement and address the planning objectives***
- ***Many measures benefit multiple purposes***
- Measures will be divided into ***geographic focus or opportunity areas*** (i.e., HUC 8, river reaches) within which specific measures can be identified and assessed for ***effectiveness and efficiency***.
    - Evaluate each measures and strategy against effectiveness (benefits) and efficiency (cost magnitude)
    - Use of qualitative scoring based on expert knowledge and judgement
    - Evaluate magnitude of costs – Implementation, Monitoring, AM Cost; OMRR&R Costs; Mitigation Cost



Opportunity/Focus Areas

- 43 HUC 8 Watersheds
- Application of measures as needed
- Measures would have independent benefits and costs
- Strategies at watershed or opportunity area scale using a holistic approach



Study Outcomes

- Comprehensive evaluation of the Kansas River Basin baseline and future conditions for various focus/resource areas (e.g., flood risk, drought, hydrology and hydraulics, sediment, ecosystems, recreation)
- Recommendations for actions to address identified problems
- Strategic roadmap/planning document that identifies the sequencing of priorities
  - The screening of measures in the final report will help identify these priorities
  - Will note where federal authorities and appropriations are available OR where new ones are needed
- Presents the findings and recommendations for future efforts, including potential future projects and studies both near-term and long-term
- The KRRFSS will not directly initiate a project (e.g., approval for sediment removal, or authority for levee construction, etc.)

Tasks / Budget / Schedule

Milestone	Key Tasks	Schedule
Shared Vision	Initial Round of Stakeholder Coordination and Public Outreach Meetings / Scoping	**May 2021**
	Identify Problems and Opportunities	
	Shared Vision Statement / Goals, Objectives, Constraints	
	Initial Baseline and Existing Conditions and FWOP	
	Identify and Screen Conceptual Measures	
	Shared Vision Milestone Meeting	
Recommendations	Opportunity Areas Identification and Measures Applied	**May 2023**
	Draft Existing Conditions, FWOP, and Measures Refinement	
	Initial Draft Conceptual Plans	
	Draft Recommendations	
	Recommendation Milestone	
Watershed Study Report	Develop Draft Watershed Study Report	**January 2024**
	Agency Technical / Public / Policy Review	
	Response to Comments	
	Develop Final Watershed Study Report	

AGENCY COORDINATION LETTERS

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, KANSAS CITY DISTRICT
601 E. 12TH STREET, 635 FEDERAL BLDG
KANSAS CITY, MO 64106-2824

December 10, 2020

Ms. Jaime Gaggero
Watersheds
U.S. Environmental Protection Agency, Region 7
11201 Renner Boulevard
Lenexa, KS 66219-9601

Dear Ms. Gaggero:

The Kansas City District, U.S. Army Corps of Engineers (USACE), Kansas Water Office, and Kansas Department of Wildlife, Parks and Tourism are conducting the Kansas River Reservoirs Flood and Sediment Study (Watershed Study). The study area includes the Kansas River Basin in parts of Kansas, Nebraska, and Colorado (Enclosure). The Watershed Study is authorized by the Resolution of the Senate Committee on Environment and Public Works, Kansas River and Tributaries, May 23, 2006 and Section 729 of the Water Resources Development Act of 1986, as amended (33 U.S.C. § 2267a). Section 729 and other specifically authorized watershed authorities allow USACE to study the water resources needs of river basins and regions of the United States.

The Watershed Study will investigate water and related land resource issues and opportunities in the Kansas River Basin to recommend comprehensive, long-term, and sustainable water resource solutions and management based on a Shared Vision for the basin. These long-term solutions may include recommendations for potential involvement by USACE, other federal agencies, or non-federal interests. Ultimately, the Watershed Study should inform stakeholders and decision makers at all levels of government and provide a strategic roadmap to inform future investment decisions by multiple agencies. Watershed studies are completed in a single phase and include three milestones: Shared Vision, Recommendations, and Final Report. The Watershed Study is currently in the Shared Vision milestone phase of the study, which will identify problems and opportunities, inventory baseline conditions and project future conditions, and identify measures and strategies to address problems.

Significant need and opportunities exist in the areas of sediment management, flood risk management, water supply availability and sustainment, ecosystem restoration, water quality, and recreation. This Watershed Study will focus on multiple objectives and tradeoffs, provide better accounting for uncertainty, and accommodate the concepts of adaptive management, stakeholder collaboration, and systems analysis for watershed-scale planning and evaluation.

Watershed studies are not project implementation documents. The level of detail is adequate for conducting watershed-level resource assessments and making recommendations. If specific projects are identified for potential implementation under existing USACE authorities (for example, flood damage reduction or ecosystem restoration), separate studies could be conducted to describe specific project features and include detailed engineering and National Environmental Policy Act documentation.

This letter is to inform the U.S. Environmental Protection Agency, Region 7 of the proposed undertaking. As part of the scope of work USACE is conducting extensive public outreach and stakeholder coordination. If your agency would like to participate in stakeholder coordination meetings, please let us know. At this time, we are requesting any concerns, questions, or comments your agency may have relative to the proposed study. As part of the Watershed Study process, we will provide a Draft Watershed Study Report for agency and public review, which outlines the study goals and objectives, existing environmental conditions, projected future conditions, proposed measures and strategies, and recommendations for future actions. We anticipate that the Draft Watershed Study Report will be available for public review in the fall of 2023.

If you have any questions or concerns, please contact the Project Manager, Ms. Laura Totten, at laura.a.totten@usace.army.mil or (816) 389-2137.

Sincerely,

Jennifer Switzer
Chief, Planning Branch

Enclosure

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, KANSAS CITY DISTRICT
601 E. 12TH STREET, 635 FEDERAL BLDG
KANSAS CITY, MO 64106-2824

December 10, 2020

Ms. Amanda Reed
Chief, Watershed Management Section
Kansas Department of Health and Environment
1000 SW Jackson St., Suite 420
Topeka, KS 66612-1367

Dear Ms. Reed:

The Kansas City District, U.S. Army Corps of Engineers (USACE), Kansas Water Office, and Kansas Department of Wildlife, Parks and Tourism are conducting the Kansas River Reservoirs Flood and Sediment Study (Watershed Study). The study area includes the Kansas River Basin in parts of Kansas, Nebraska, and Colorado (Enclosure). The Watershed Study is authorized by the Resolution of the Senate Committee on Environment and Public Works, Kansas River and Tributaries, May 23, 2006 and Section 729 of the Water Resources Development Act of 1986, as amended (33 U.S.C. § 2267a). Section 729 and other specifically authorized watershed authorities allow USACE to study the water resources needs of river basins and regions of the United States.

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This letter is to inform the Kansas Department of Health and Environment of the proposed undertaking. As part of the scope of work USACE is conducting extensive public outreach and stakeholder coordination. If your agency would like to participate in stakeholder coordination meetings, please let us know. At this time, we are requesting any concerns, questions, or comments your agency may have relative to the proposed study. As part of the Watershed Study process, we will provide a Draft Watershed Study Report for agency and public review, which outlines the study goals and objectives, existing environmental conditions, projected future conditions, proposed measures and strategies, and recommendations for future actions. We anticipate that the Draft Watershed Study Report will be available for public review in the fall of 2023.

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Sincerely,

Jennifer Switzer
Chief, Planning Branch

Enclosure

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, KANSAS CITY DISTRICT
601 E. 12TH STREET, 635 FEDERAL BLDG
KANSAS CITY, MO 64106-2824

December 10, 2020

Ms. Michelle Koch
Assistant Division Administrator – Water Policy / Planning and Programming Division
Nebraska Game and Parks Commission
2200 N. 33rd Street
Lincoln, NE 68503-1417

Dear Ms. Koch:

The Kansas City District, U.S. Army Corps of Engineers (USACE), Kansas Water Office, and Kansas Department of Wildlife, Parks and Tourism are conducting the Kansas River Reservoirs Flood and Sediment Study (Watershed Study). The study area includes the Kansas River Basin in parts of Kansas, Nebraska, and Colorado (Enclosure). The Watershed Study is authorized by the Resolution of the Senate Committee on Environment and Public Works, Kansas River and Tributaries, May 23, 2006 and Section 729 of the Water Resources Development Act of 1986, as amended (33 U.S.C. § 2267a). Section 729 and other specifically authorized watershed authorities allow USACE to study the water resources needs of river basins and regions of the United States.

The Watershed Study will investigate water and related land resource issues and opportunities in the Kansas River Basin to recommend comprehensive, long-term, and sustainable water resource solutions and management based on a Shared Vision for the basin. These long-term solutions may include recommendations for potential involvement by USACE, other federal agencies, or non-federal interests. Ultimately, the Watershed Study should inform stakeholders and decision makers at all levels of government and provide a strategic roadmap to inform future investment decisions by multiple agencies. Watershed studies are completed in a single phase and include three milestones: Shared Vision, Recommendations, and Final Report. The Watershed Study is currently in the Shared Vision milestone phase of the study, which will identify problems and opportunities, inventory baseline conditions and project future conditions, and identify measures and strategies to address problems.

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This letter is to inform the Nebraska Game and Parks Commission of the proposed undertaking. As part of the scope of work USACE is conducting extensive public outreach and stakeholder coordination. If your agency would like to participate in stakeholder coordination meetings, please let us know. At this time, we are requesting any concerns, questions, or comments your agency may have relative to the proposed study. As part of the Watershed Study process, we will provide a Draft Watershed Study Report for agency and public review, which outlines the study goals and objectives, existing environmental conditions, projected future conditions, proposed measures and strategies, and recommendations for future actions. We anticipate that the Draft Watershed Study Report will be available for public review in the fall of 2023.

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Jennifer Switzer
Chief, Planning Branch

Enclosure

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U.S. ARMY CORPS OF ENGINEERS, KANSAS CITY DISTRICT
601 E. 12TH STREET, 635 FEDERAL BLDG
KANSAS CITY, MO 64106-2824

December 10, 2020

Director Doug Kluck
U.S. Department of Commerce
National Oceanic & Atmospheric Administration – Central Region Climate Services
7220 NW 101st Terrace
Kansas City, MO 64153-2371

Dear Mr. Kluck:

The Kansas City District, U.S. Army Corps of Engineers (USACE), Kansas Water Office, and Kansas Department of Wildlife, Parks and Tourism are conducting the Kansas River Reservoirs Flood and Sediment Study (Watershed Study). The study area includes the Kansas River Basin in parts of Kansas, Nebraska, and Colorado (Enclosure). The Watershed Study is authorized by the Resolution of the Senate Committee on Environment and Public Works, Kansas River and Tributaries, May 23, 2006 and Section 729 of the Water Resources Development Act of 1986, as amended (33 U.S.C. § 2267a). Section 729 and other specifically authorized watershed authorities allow USACE to study the water resources needs of river basins and regions of the United States.

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This letter is to inform the U.S. Department of Commerce, National Oceanic & Atmospheric Administration, Central Region Climate Services of the proposed undertaking. As part of the scope of work USACE is conducting extensive public outreach and stakeholder coordination. If your agency would like to participate in stakeholder coordination meetings, please let us know. At this time, we are requesting any concerns, questions, or comments your agency may have relative to the proposed study. As part of the Watershed Study process, we will provide a Draft Watershed Study Report for agency and public review, which outlines the study goals and objectives, existing environmental conditions, projected future conditions, proposed measures and strategies, and recommendations for future actions. We anticipate that the Draft Watershed Study Report will be available for public review in the fall of 2023.

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Sincerely,

Jennifer Switzer
Chief, Planning Branch

Enclosure

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, KANSAS CITY DISTRICT
601 E. 12TH STREET, 635 FEDERAL BLDG
KANSAS CITY, MO 64106-2824

December 17, 2020

Mr. David J. Thomson
Program Manager, RTCA and Accessibility
Rivers, Trails & Conservation Assistance Program
National Park Service – DOI Region 3, 4, & 5
601 Riverfront Drive
Omaha, NE 68102

Dear Mr. Thomson:

The Kansas City District, U.S. Army Corps of Engineers (USACE), Kansas Water Office, and Kansas Department of Wildlife, Parks and Tourism are conducting the Kansas River Reservoirs Flood and Sediment Study (Watershed Study). The study area includes the Kansas River Basin in parts of Kansas, Nebraska, and Colorado (Enclosure). The Watershed Study is authorized by the Resolution of the Senate Committee on Environment and Public Works, Kansas River and Tributaries, May 23, 2006 and Section 729 of the Water Resources Development Act of 1986, as amended (33 U.S.C. § 2267a). Section 729 and other specifically authorized watershed authorities allow USACE to study the water resources needs of river basins and regions of the United States.

The Watershed Study will investigate water and related land resource issues and opportunities in the Kansas River Basin to recommend comprehensive, long-term, and sustainable water resource solutions and management based on a Shared Vision for the basin. These long-term solutions may include recommendations for potential involvement by USACE, other federal agencies, or non-federal interests. Ultimately, the Watershed Study should inform stakeholders and decision makers at all levels of government and provide a strategic roadmap to inform future investment decisions by multiple agencies. Watershed studies are completed in a single phase and include three milestones: Shared Vision, Recommendations, and Final Report. The Watershed Study is currently in the Shared Vision milestone phase of the study, which will identify problems and opportunities, inventory baseline conditions and project future conditions, and identify measures and strategies to address problems.

Significant need and opportunities exist in the areas of sediment management, flood risk management, water supply availability and sustainment, ecosystem restoration, water quality, and recreation. This Watershed Study will focus on multiple objectives and tradeoffs, provide better accounting for uncertainty, and accommodate the concepts of adaptive management, stakeholder collaboration, and systems analysis for watershed-scale planning and evaluation.

Watershed studies are not project implementation documents. The level of detail is adequate for conducting watershed-level resource assessments and making recommendations. If specific projects are identified for potential implementation under existing USACE authorities (for example, flood damage reduction or ecosystem restoration), separate studies could be conducted to describe specific project features and include detailed engineering and National Environmental Policy Act documentation.

This letter is to inform the National Park Service, DOI Region 3, 4, & 5 of the proposed undertaking. As part of the scope of work USACE is conducting extensive public outreach and stakeholder coordination. If your agency would like to participate in stakeholder coordination meetings, please let us know. At this time, we are requesting any concerns, questions, or comments your agency may have relative to the proposed study. As part of the Watershed Study process, we will provide a Draft Watershed Study Report for agency and public review, which outlines the study goals and objectives, existing environmental conditions, projected future conditions, proposed measures and strategies, and recommendations for future actions. We anticipate that the Draft Watershed Study Report will be available for public review in the fall of 2023.

If you have any questions or concerns, please contact the Project Manager, Ms. Laura Totten, at laura.a.totten@usace.army.mil or (816) 389-2137.

Sincerely,

Jennifer Switzer
Chief, Planning Branch

Enclosure

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, KANSAS CITY DISTRICT
601 E. 12TH STREET, 635 FEDERAL BLDG
KANSAS CITY, MO 64106-2824

December 10, 2020

Mr. Kevin Low
U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Weather Service
1803 North 7 Highway
Pleasant Hill, MO 64080-9421

Dear Mr. Low:

The Kansas City District, U.S. Army Corps of Engineers (USACE), Kansas Water Office, and Kansas Department of Wildlife, Parks and Tourism are conducting the Kansas River Reservoirs Flood and Sediment Study (Watershed Study). The study area includes the Kansas River Basin in parts of Kansas, Nebraska, and Colorado (Enclosure). The Watershed Study is authorized by the Resolution of the Senate Committee on Environment and Public Works, Kansas River and Tributaries, May 23, 2006 and Section 729 of the Water Resources Development Act of 1986, as amended (33 U.S.C. § 2267a). Section 729 and other specifically authorized watershed authorities allow USACE to study the water resources needs of river basins and regions of the United States.

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This letter is to inform the U.S. Department of Commerce, National Oceanic & Atmospheric Administration, National Weather Service of the proposed undertaking. As part of the scope of work the USACE is conducting extensive public outreach and stakeholder coordination. If your agency would like to participate in stakeholder coordination meetings, please let us know. At this time, we are requesting any concerns, questions, or comments your agency may have relative to the proposed study. As part of the Watershed Study process, we will provide a Draft Watershed Study Report for agency and public review, which outlines the study goals and objectives, existing environmental conditions, projected future conditions, proposed measures and strategies, and recommendations for future actions. We anticipate that the Draft Watershed Study Report will be available for public review in the fall of 2023.

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Sincerely,

Jennifer Switzer
Chief, Planning Branch

Enclosure

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, KANSAS CITY DISTRICT
601 E. 12TH STREET, 635 FEDERAL BLDG
KANSAS CITY, MO 64106-2824

December 10, 2020

Mr. Aaron Thompson
Area Manager
U.S. Bureau of Reclamation, Nebraska-Kansas Area Office
1706 West Third
McCook, NE 69001-0001

Dear Mr. Thompson:

The Kansas City District, U.S. Army Corps of Engineers (USACE), Kansas Water Office and Kansas Department of Wildlife, Parks and Tourism are conducting the Kansas River Reservoirs Flood and Sediment Study (Watershed Study). The study area includes the Kansas River Basin in parts of Kansas, Nebraska, and Colorado (Enclosure). The Watershed Study is authorized by the Resolution of the Senate Committee on Environment and Public Works, Kansas River and Tributaries, May 23, 2006 and Section 729 of the Water Resources Development Act of 1986, as amended (33 U.S.C. § 2267a). Section 729 and other specifically authorized watershed authorities allow USACE to study the water resources needs of river basins and regions of the United States.

The Watershed Study will investigate water and related land resource issues and opportunities in the Kansas River Basin to recommend comprehensive, long-term, and sustainable water resource solutions and management based on a Shared Vision for the basin. These long-term solutions may include recommendations for potential involvement by the USACE, other federal agencies, or non-federal interests. Ultimately, the Watershed Study should inform stakeholders and decision makers at all levels of government and provide a strategic roadmap to inform future investment decisions by multiple agencies. Watershed studies are completed in a single phase and include three milestones: Shared Vision, Recommendations, and Final Report. The Watershed Study is currently in the Shared Vision milestone phase of the study, which will identify problems and opportunities, inventory baseline conditions and project future conditions, and identify measures and strategies to address problems.

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This letter is to inform the U.S. Bureau of Reclamation, Nebraska-Kansas Area Office of the proposed undertaking. As part of the scope of work the USACE is conducting extensive public outreach and stakeholder coordination. If your agency would like to participate in stakeholder coordination meetings, please let us know. At this time we are requesting any concerns, questions, or comments your agency may have relative to the proposed study and ask of your interest in participating in a teleconference to provide you with an overview of the study, including the study framework and study outcomes. As part of the Watershed Study process, we will provide a Draft Watershed Study Report for agency and public review, which outlines the study goals and objectives, existing environmental conditions, projected future conditions, proposed measures and strategies, and recommendations for future actions. We anticipate that the Draft Watershed Study Report will be available for public review in the fall of 2023.

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Sincerely,

Jennifer Switzer
Chief, Planning Branch

Enclosure

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, KANSAS CITY DISTRICT
601 E. 12TH STREET, 635 FEDERAL BLDG
KANSAS CITY, MO 64106-2824

December 10, 2020

Mr. Clint Evans
State Conservationist – Colorado State Office
U.S. Department of Agriculture, Natural Resource Conservation Service
Building 56, Room 2604
PO Box 25426
Denver, CO 80225-0426

Dear Mr. Evans:

The Kansas City District, U.S. Army Corps of Engineers (USACE), Kansas Water Office, and Kansas Department of Wildlife, Parks and Tourism are conducting the Kansas River Reservoirs Flood and Sediment Study (Watershed Study). The study area includes the Kansas River Basin in parts of Kansas, Nebraska, and Colorado (Enclosure). The Watershed Study is authorized by the Resolution of the Senate Committee on Environment and Public Works, Kansas River and Tributaries, May 23, 2006 and Section 729 of the Water Resources Development Act (WRDA) of 1986, as amended (33 U.S.C. § 2267a). Section 729 and other specifically authorized watershed authorities allow USACE to study the water resources needs of river basins and regions of the United States.

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This letter is to inform the U.S. Department of Agriculture, Natural Resource Conservation Service, Colorado State Office of the proposed undertaking. As part of the scope of work the USACE is conducting extensive public outreach and stakeholder coordination. If your agency would like to participate in stakeholder coordination meetings, please let us know. At this time, we are requesting any concerns, questions, or comments your agency may have relative to the proposed study. As part of the Watershed Study process, we will provide a Draft Watershed Study Report for agency and public review, which outlines the study goals and objectives, existing environmental conditions, projected future conditions, proposed measures and strategies, and recommendations for future actions. We anticipate that the Draft Watershed Study Report will be available for public review in the fall of 2023.

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Sincerely,

Jennifer Switzer
Chief, Planning Branch

Enclosure

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, KANSAS CITY DISTRICT
601 E. 12TH STREET, 635 FEDERAL BLDG
KANSAS CITY, MO 64106-2824

December 10, 2020

Ms. Karen Woodrich
State Conservationist – Kansas State Office
U.S. Department of Agriculture, Natural Resource Conservation Service
760 South Broadway Boulevard
Salina, KS 67401-4604

Dear Ms. Woodrich:

The Kansas City District, U.S. Army Corps of Engineers (USACE), Kansas Water Office, and Kansas Department of Wildlife, Parks and Tourism are conducting the Kansas River Reservoirs Flood and Sediment Study (Watershed Study). The study area includes the Kansas River Basin in parts of Kansas, Nebraska, and Colorado (Enclosure). The Watershed Study is authorized by the Resolution of the Senate Committee on Environment and Public Works, Kansas River and Tributaries, May 23, 2006 and Section 729 of the Water Resources Development Act of 1986, as amended (33 U.S.C. § 2267a). Section 729 and other specifically authorized watershed authorities allow USACE to study the water resources needs of river basins and regions of the United States.

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If you have any questions or concerns, please contact the Project Manager, Ms. Laura Totten at laura.a.totten@usace.army.mil or (816) 389-2137.

Sincerely,

Jennifer Switzer
Chief, Planning Branch

Enclosure

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, KANSAS CITY DISTRICT
601 E. 12TH STREET, 635 FEDERAL BLDG
KANSAS CITY, MO 64106-2824

December 10, 2020

Craig Derickson
State Conservationist – Nebraska State Office
U.S. Department of Agriculture, Natural Resource Conservation Service
100 Centennial Mall North, Rm 152
Lincoln, NE 68508-3859

Dear Mr. Derickson:

The Kansas City District, U.S. Army Corps of Engineers (USACE), Kansas Water Office, and Kansas Department of Wildlife, Parks and Tourism are conducting the Kansas River Reservoirs Flood and Sediment Study (Watershed Study). The study area includes the Kansas River Basin in parts of Kansas, Nebraska, and Colorado (Enclosure). The Watershed Study is authorized by the Resolution of the Senate Committee on Environment and Public Works, Kansas River and Tributaries, May 23, 2006 and Section 729 of the Water Resources Development Act of 1986, as amended (33 U.S.C. § 2267a). Section 729 and other specifically authorized watershed authorities allow USACE to study the water resources needs of river basins and regions of the United States.

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This letter is to inform the U.S. Department of Agriculture, Natural Resource Conservation Service, Nebraska State Office of the proposed undertaking. As part of the scope of work USACE is conducting extensive public outreach and stakeholder coordination. If your agency would like to participate in stakeholder coordination meetings, please let us know. At this time, we are requesting any concerns, questions, or comments your agency may have relative to the proposed study. As part of the Watershed Study process, we will provide a Draft Watershed Study Report for agency and public review, which outlines the study goals and objectives, existing environmental conditions, projected future conditions, proposed measures and strategies, and recommendations for future actions. We anticipate that the Draft Watershed Study Report will be available for public review in the fall of 2023.

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Sincerely,

Jennifer Switzer
Chief, Planning Branch

Enclosure

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, KANSAS CITY DISTRICT
601 E. 12TH STREET, 635 FEDERAL BLDG
KANSAS CITY, MO 64106-2824

December 10, 2020

Director Andrew Ziegler
U.S. Geological Survey, Kansas Water Science Center
1217 Biltmore Drive
Lawrence, KS 66049-1996

Dear Mr. Ziegler:

The Kansas City District, U.S. Army Corps of Engineers (USACE), Kansas Water Office and Kansas Department of Wildlife, Parks and Tourism are conducting the Kansas River Reservoirs Flood and Sediment Study (Watershed Study). The study area includes the Kansas River Basin in parts of Kansas, Nebraska, and Colorado (Enclosure). The Watershed Study is authorized by the Resolution of the Senate Committee on Environment and Public Works, Kansas River and Tributaries, May 23, 2006 and Section 729 of the Water Resources Development Act of 1986, as amended (33 U.S.C. § 2267a). Section 729 and other specifically authorized watershed authorities allow USACE to study the water resources needs of river basins and regions of the United States.

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recommendations. If specific projects are identified for potential implementation under existing USACE authorities (for example, flood damage reduction or ecosystem restoration), separate studies could be conducted to describe specific project features and include detailed engineering and National Environmental Policy Act documentation.

This letter is to inform the U.S. Geological Survey of the proposed undertaking. As part of the scope of work USACE is conducting extensive public outreach and stakeholder coordination. If your agency would like to participate in stakeholder coordination meetings, please let us know. At this time, we are requesting any concerns, questions, or comments your agency may have relative to the proposed study. As part of the Watershed Study process, we will provide a Draft Watershed Study Report for agency and public review, which outlines the study goals and objectives, existing environmental conditions, projected future conditions, proposed measures and strategies, and recommendations for future actions. We anticipate that the Draft Watershed Study Report will be available for public review in the fall of 2023.

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Sincerely,

Jennifer Switzer
Chief, Planning Branch

Enclosure

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, KANSAS CITY DISTRICT
635 FEDERAL BLDG
601 E 12TH STREET
KANSAS CITY, MISSOURI 64106-2824

Planning Branch

Drue DeBerry
Colorado Field Supervisor
U.S. Fish and Wildlife Service, Colorado Field Office
P.O. Box 25486 DFC (MS 65412)
Denver, CO 80225-0486

Dear Mr. DeBerry:

The Kansas City District, U.S. Army Corps of Engineers (USACE), Kansas Water Office (KWO), and Kansas Department of Wildlife, Parks and Tourism (KDWPT) are conducting the Kansas River Reservoirs Flood and Sediment Study (Watershed Study). The study area includes Kansas River Basin in parts of Kansas, Nebraska, and Colorado (Figure 1). The Watershed Study is authorized by the Resolution of the Senate Committee on Environment and Public Works, Kansas River and Tributaries, May 23, 2006 and Section 729 of the Water Resources Development Act (WRDA) of 1986, as amended (33 U.S.C. § 2267a). Section 729 and other specifically authorized watershed authorities allow USACE to study the water resources needs of river basins and regions of the United States.

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existing USACE authorities (for example, flood damage reduction or ecosystem restoration), separate studies could be conducted to describe specific project features and include detailed engineering and National Environmental Policy Act (NEPA) documentation.

This letter is to inform the United States Fish and Wildlife Service (USFWS) of the Watershed Study. As described above, the Watershed study could recommend potential future studies that may require coordination under the Fish and Wildlife Coordination Act (FWCA) and Section 7 consultation. In addition, if there are any watershed level efforts (projects/studies), properties, or concerns that should be considered by the planning team, the USACE would appreciate any available information. As part of the scope of work the USACE is conducting extensive public outreach and stakeholder coordination. If your agency would like to participate in stakeholder coordination meetings please let us know.

The USACE conducted an initial assessment of the proposed study area and review of the USFWS Information, Planning, and Conservation System (IPAC) completed on 23 October 2020 (Attachment). Due to the large study area the IPAC was completed for 3 sub basins, the Kansas River sub basin, Republican River sub basin, and the Smoky Hill River sub basin. The study's location is within the jurisdiction of multiple USFWS field offices. Species lists and critical habitats that fall within each field office jurisdiction were provided. Within the jurisdiction of the Colorado Field Office the USACE identified five federally listed species: Least Tern, Piping Plover, Whooping Crane, Pallid Sturgeon, and Western Prairie Fringed Orchid; and 16 species of migratory birds within the Republican River sub basin. Within the Smoky Hill River sub basin there were no federally listed species identified; however, 9 species of migratory birds were identified. To assist with our planning efforts please provide additional information regarding these or any other federally listed species, candidate species, or designated critical habitat known to be within or adjacent to the project area.

If your agency has any additional concerns, questions, or comments on the proposed study, please contact the project manager, Ms. Laura Totten at laura.a.totten@usace.army.mil or (816) 389-2137; or the environmental planner, Mr. Jeff Tripe at jeffry.a.tripe@usace.army.mil or 816-289-4178. As part of the Watershed Study process, we will provide a Draft Watershed Study Report for agency and public review, which outlines the goals and objectives, existing environmental conditions, project future conditions, proposed measures and strategies, and recommendations for future actions. We anticipate that the Draft Watershed Study Report will be available for public review in the fall of 2023.

Sincerely,

Acting

Jason Farmer
Chief, Environmental Resources Section

Enclosures

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Colorado Ecological Services Field Office
Denver Federal Center
P.O. Box 25486
Denver, CO 80225-0486
Phone: (303) 236-4773 Fax: (303) 236-4005
http://www.fws.gov/coloradoES
http://www.fws.gov/platteriver

In Reply Refer To: October 23, 2020
Consultation Code: 06E24000-2021-SLI-0078
Event Code: 06E24000-2021-E-00196
Project Name: Kansas River Watershed Study - Republican River Sub Basin

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Colorado Ecological Services Field Office
Denver Federal Center
P.O. Box 25486
Denver, CO 80225-0486
(303) 236-4773

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following offices, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

Kansas Ecological Services Field Office
2609 Anderson Avenue
Manhattan, KS 66502-2801
(785) 539-3474

Nebraska Ecological Services Field Office
9325 B South Alda Rd., Ste B
Wood River, NE 68883-9565
(308) 382-6468

Project Summary

Consultation Code: 06E24000-2021-SLI-0078

Event Code: 06E24000-2021-E-00196

Project Name: Kansas River Watershed Study - Republican River Sub Basin

Project Type: ** OTHER **

Project Description: The Watershed Study will investigate water resource issues and opportunities in the Kansas River Basin to recommend comprehensive, long-term solutions based on a Shared Vision for the basin. These long-term solutions may include recommendations for potential involvement by the USACE, other federal agencies, or non-federal interests. The Watershed Study will integrate water and related land resource management considerations, seeking sustainable water resources management and taking into account various additional considerations. Ultimately, the Watershed Study should inform multiple stakeholders and decision makers at all levels of government and provide a strategic roadmap to inform future investment decisions by multiple agencies. Significant need and opportunities exist in the areas of sediment management, flood risk management, water supply availability and sustainment, ecosystem restoration, navigation, and recreation. This integrated Watershed Study will focus attention on multiple objectives and tradeoffs, provide better accounting for uncertainty, and accommodate the concepts of adaptive management, stakeholder collaboration, and systems analysis for watershed-scale planning and evaluation. The Watershed Study will build from the extensive research, planning, outreach and documentation in the Kansas Water Plan (2014) and Vision for the Future of Water Supply in Kansas (2015)(Vision). The State of Kansas uses the Kansas Water Plan as a primary tool to address current water resource issues for future needs. The Kansas Water Office (KWO), in coordination with local, state, federal and interstate partners, updates the Kansas Water Plan every 5 years. Water resource issues addressed in the Kansas Water Plan extend beyond water supply and include goals and priorities, such as improving the state’s water quality and improving recreational opportunities available to citizens. The Vision, currently in update, guides the Kansas Water Plan, which provides 5-year milestone events to measure Vision success. Revisions to the Vision will be used to develop this Watershed Study as necessary.

This is one of 3 sub basins that will have individual IPAC Reports conducted due to file size.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/40.033319104526925N100.5968833886262W

Counties: Cheyenne, CO | Elbert, CO | Kit Carson, CO | Lincoln, CO | Logan, CO | Phillips, CO | Sedgwick, CO | Washington, CO | Yuma, CO | Cheyenne, KS | Clay, KS | Cloud, KS | Decatur, KS | Dickinson, KS | Geary, KS | Jewell, KS | Mitchell, KS | Norton, KS | Phillips, KS | Rawlins, KS | Republic, KS | Riley, KS | Sheridan, KS | Sherman, KS | Smith, KS | Thomas, KS | Washington, KS | Chase, NE | Dundy, NE | Franklin, NE | Frontier, NE | Furnas, NE | Gosper, NE | Harlan, NE | Hayes, NE | Hitchcock, NE | Kearney, NE | Keith, NE | Lincoln, NE | Nuckolls, NE | Perkins, NE | Phelps, NE | Red Willow, NE | Thayer, NE | Webster, NE

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 5 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Least Tern *Sterna antillarum*	Endangered

Population: interior pop.
No critical habitat has been designated for this species.
This species only needs to be considered under the following conditions:
- Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska.

Species profile: https://ecos.fws.gov/ecp/species/8505

Piping Plover *Charadrius melodus*	Threatened

Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered.
There is **final** critical habitat for this species. Your location is outside the critical habitat.
This species only needs to be considered under the following conditions:
- Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska.

Species profile: https://ecos.fws.gov/ecp/species/6039

Whooping Crane *Grus americana*	Endangered

Population: Wherever found, except where listed as an experimental population
There is **final** critical habitat for this species. Your location is outside the critical habitat.
This species only needs to be considered under the following conditions:
- Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska.

Species profile: https://ecos.fws.gov/ecp/species/758

Fishes

NAME	STATUS
Pallid Sturgeon *Scaphirhynchus albus*	Endangered

No critical habitat has been designated for this species.
This species only needs to be considered under the following conditions:
- Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska.

Species profile: https://ecos.fws.gov/ecp/species/7162

Flowering Plants

NAME	STATUS
Western Prairie Fringed Orchid *Platanthera praeclara*	Threatened

No critical habitat has been designated for this species.
This species only needs to be considered under the following conditions:
- Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska.

Species profile: https://ecos.fws.gov/ecp/species/1669

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Jul 31
Burrowing Owl *Athene cunicularia* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9737	Breeds Mar 15 to Aug 31

NAME	BREEDING SEASON
Cassin's Sparrow *Aimophila cassinii* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9512	Breeds Aug 1 to Oct 10
Chestnut-collared Longspur *Calcarius ornatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 10
Golden Eagle *Aquila chrysaetos* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Lark Bunting *Calamospiza melanocorys* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 10 to Aug 15
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Lewis's Woodpecker *Melanerpes lewis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9408	Breeds Apr 20 to Sep 30
Long-billed Curlew *Numenius americanus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5511	Breeds Apr 1 to Jul 31
Mccown's Longspur *Calcarius mccownii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9292	Breeds May 1 to Aug 15
Mountain Plover *Charadrius montanus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3638	Breeds Apr 15 to Aug 15
Semipalmated Sandpiper *Calidris pusilla* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere

NAME	BREEDING SEASON
Sprague's Pipit *Anthus spragueii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8964	Breeds elsewhere
Whimbrel *Numenius phaeopus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9483	Breeds elsewhere
Willet *Tringa semipalmata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5
Willow Flycatcher *Empidonax traillii* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/3482	Breeds May 20 to Aug 31

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ “Proper Interpretation and Use of Your Migratory Bird Report” before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence

in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

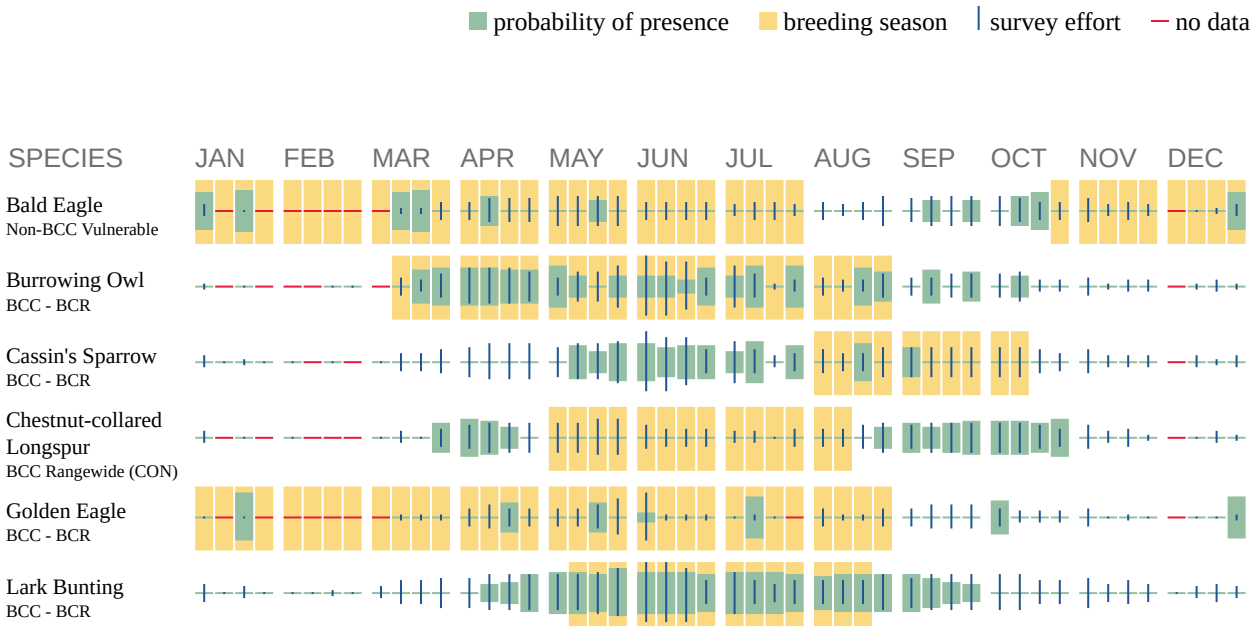
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

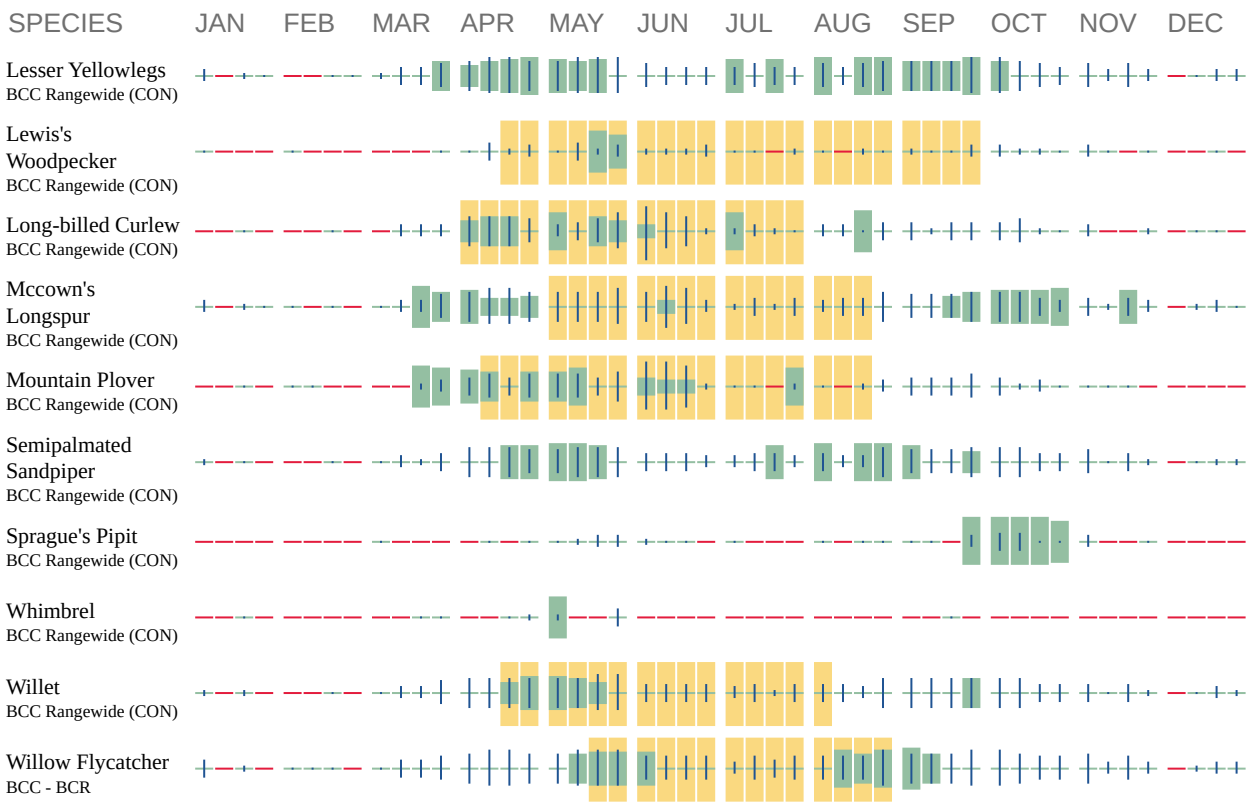
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.
Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or

permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?
The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In

contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

Due to your project's size, the list below may be incomplete, or the acreages reported may be inaccurate. For a full list, please contact the local U.S. Fish and Wildlife office or visit https://www.fws.gov/wetlands/data/mapper.HTML

FRESHWATER EMERGENT WETLAND

- PEM1A
- PEM1C
- PEM1J

FRESHWATER POND

- PUBFx
- PUSA
- PUSC
- PUSJ
- PABF
- PABG

LAKE

- L1UBG

OTHER

- Pf

RIVERINE

- R4SBA
- R4SBC
- R5UBH

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Colorado Ecological Services Field Office
Denver Federal Center
P.O. Box 25486
Denver, CO 80225-0486
Phone: (303) 236-4773 Fax: (303) 236-4005
http://www.fws.gov/coloradoES
http://www.fws.gov/platteriver

In Reply Refer To: October 23, 2020
Consultation Code: 06E24000-2021-SLI-0079
Event Code: 06E24000-2021-E-00198
Project Name: Kansas River Watershed Study - Smoky Hill Sub Basin

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Colorado Ecological Services Field Office
Denver Federal Center
P.O. Box 25486
Denver, CO 80225-0486
(303) 236-4773

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following offices, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

Kansas Ecological Services Field Office
2609 Anderson Avenue
Manhattan, KS 66502-2801
(785) 539-3474

Nebraska Ecological Services Field Office
9325 B South Alda Rd., Ste B
Wood River, NE 68883-9565
(308) 382-6468

Project Summary

Consultation Code: 06E24000-2021-SLI-0079

Event Code: 06E24000-2021-E-00198

Project Name: Kansas River Watershed Study - Smoky Hill Sub Basin

Project Type: ** OTHER **

Project Description: The Watershed Study will investigate water resource issues and opportunities in the Kansas River Basin to recommend comprehensive, long-term solutions based on a Shared Vision for the basin. These long-term solutions may include recommendations for potential involvement by the USACE, other federal agencies, or non-federal interests. The Watershed Study will integrate water and related land resource management considerations, seeking sustainable water resources management and taking into account various additional considerations. Ultimately, the Watershed Study should inform multiple stakeholders and decision makers at all levels of government and provide a strategic roadmap to inform future investment decisions by multiple agencies. Significant need and opportunities exist in the areas of sediment management, flood risk management, water supply availability and sustainment, ecosystem restoration, navigation, and recreation. This integrated Watershed Study will focus attention on multiple objectives and tradeoffs, provide better accounting for uncertainty, and accommodate the concepts of adaptive management, stakeholder collaboration, and systems analysis for watershed-scale planning and evaluation. The Watershed Study will build from the extensive research, planning, outreach and documentation in the Kansas Water Plan (2014) and Vision for the Future of Water Supply in Kansas (2015)(Vision). The State of Kansas uses the Kansas Water Plan as a primary tool to address current water resource issues for future needs. The Kansas Water Office (KWO), in coordination with local, state, federal and interstate partners, updates the Kansas Water Plan every 5 years. Water resource issues addressed in the Kansas Water Plan extend beyond water supply and include goals and priorities, such as improving the state’s water quality and improving recreational opportunities available to citizens. The Vision, currently in update, guides the Kansas Water Plan, which provides 5-year milestone events to measure Vision success. Revisions to the Vision will be used to develop this Watershed Study as necessary.

This is one of 3 sub basins that will have individual IPAC Reports conducted due to file size.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/39.19261552666521N99.68024455206864W

Counties: Cheyenne, CO | Kit Carson, CO | Barton, KS | Clay, KS | Cloud, KS | Decatur, KS | Dickinson, KS | Ellis, KS | Ellsworth, KS | Geary, KS | Gove, KS | Graham, KS | Greeley, KS | Jewell, KS | Lane, KS | Lincoln, KS | Logan, KS | Marion, KS | McPherson, KS | Mitchell, KS | Morris, KS | Ness, KS | Norton, KS | Osborne, KS | Ottawa, KS | Phillips, KS | Rice, KS | Rooks, KS | Rush, KS | Russell, KS | Saline, KS | Scott, KS | Sheridan, KS | Sherman, KS | Smith, KS | Thomas, KS | Trego, KS | Wallace, KS | Wichita, KS | Franklin, NE

Endangered Species Act Species

There is a total of 0 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Burrowing Owl *Athene cunicularia* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9737	Breeds Mar 15 to Aug 31
Cassin's Sparrow *Aimophila cassinii* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9512	Breeds Aug 1 to Oct 10

NAME	BREEDING SEASON
Chestnut-collared Longspur *Calcarius ornatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 10
Lark Bunting *Calamospiza melanocorys* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 10 to Aug 15
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Long-billed Curlew *Numenius americanus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5511	Breeds Apr 1 to Jul 31
Mccown's Longspur *Calcarius mccownii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9292	Breeds May 1 to Aug 15
Mountain Plover *Charadrius montanus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3638	Breeds Apr 15 to Aug 15
Semipalmated Sandpiper *Calidris pusilla* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ “Proper Interpretation and Use of Your Migratory Bird Report” before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

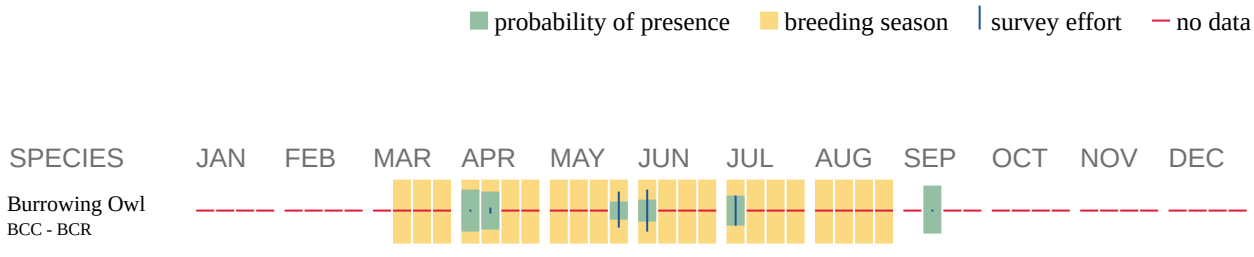
1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

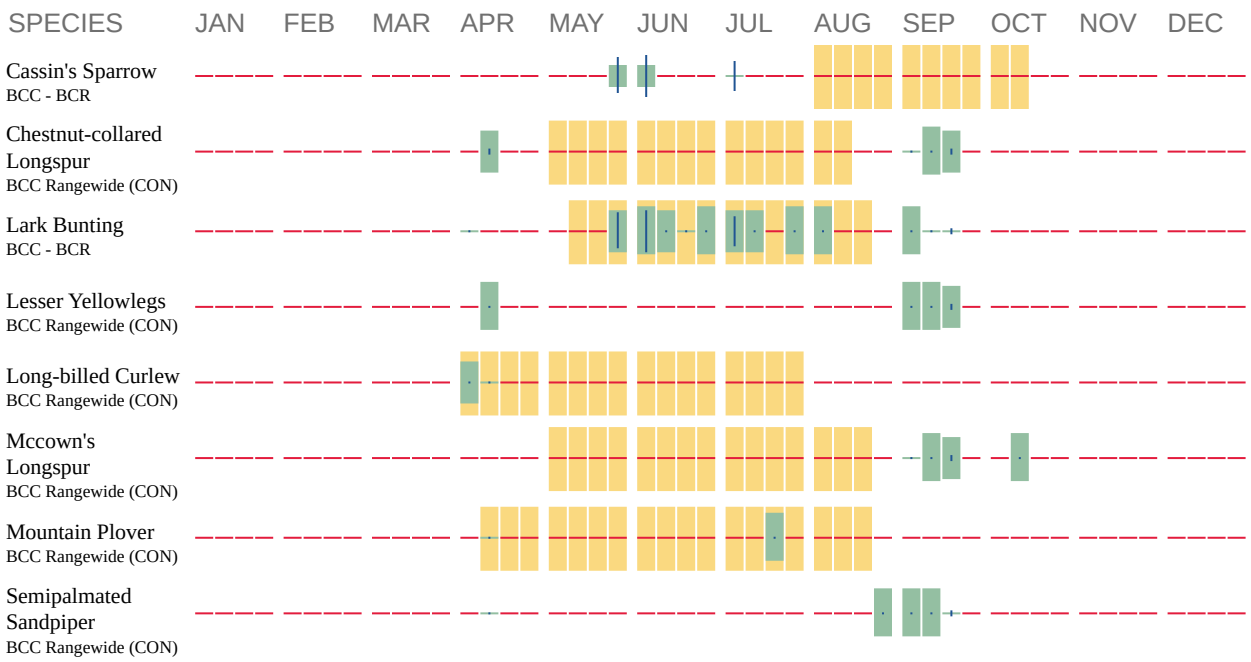
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and

3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell

me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

Due to your project's size, the list below may be incomplete, or the acreages reported may be inaccurate. For a full list, please contact the local U.S. Fish and Wildlife office or visit https://www.fws.gov/wetlands/data/mapper.HTML

FRESHWATER EMERGENT WETLAND

- PEM1A
- PEM1C
- PEM1J

FRESHWATER POND

- PABF
- PUBF
- PUBFx
- PUSA
- PUSC

OTHER

- Pf

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, KANSAS CITY DISTRICT
635 FEDERAL BLDG
601 E 12TH STREET
KANSAS CITY, MISSOURI 64106-2824

Planning Branch

Jason Luginbill
Kansas Field Supervisor
U.S. Fish and Wildlife Service, Kansas Field Office
2609 Anderson Ave.
Manhattan, KS 66502

Dear Mr. Luginbill:

The Kansas City District, U.S. Army Corps of Engineers (USACE), Kansas Water Office (KWO), and Kansas Department of Wildlife, Parks and Tourism (KDWPT) are conducting the Kansas River Reservoirs Flood and Sediment Study (Watershed Study). The study area includes the Kansas River Basin in parts of Kansas, Nebraska, and Colorado (Figure 1). The Watershed Study is authorized by the Resolution of the Senate Committee on Environment and Public Works, Kansas River and Tributaries, May 23, 2006 and Section 729 of the Water Resources Development Act (WRDA) of 1986, as amended (33 U.S.C. § 2267a). Section 729 and other specifically authorized watershed authorities allow USACE to study the water resources needs of river basins and regions of the United States.

The Watershed Study will investigate water and related land resource issues and opportunities in the Kansas River Basin to recommend comprehensive, long-term, and sustainable water resource solutions and management based on a Shared Vision for the basin. These long-term solutions may include recommendations for potential involvement by the USACE, other federal agencies, or non-federal interests. Ultimately, the Watershed Study should inform stakeholders and decision makers at all levels of government and provide a strategic roadmap to inform future investment decisions by multiple agencies. Watershed studies are completed in a single phase and include three milestones: Shared Vision, Recommendations, and Final Report. The Watershed Study is currently in the Shared Vision milestone phase of the study, which will identify problems and opportunities, inventory baseline conditions and project future conditions, and identify measures and strategies to address problems.

Significant need and opportunities exist in the areas of sediment management, flood risk management, water supply availability and sustainment, ecosystem restoration, water quality, and recreation. This Watershed Study will focus attention on multiple objectives and tradeoffs, provide better accounting for uncertainty, and accommodate the concepts of adaptive management, stakeholder collaboration, and systems analysis for watershed-scale planning and evaluation.

Watershed studies are not project implementation documents. The level of detail is adequate for conducting watershed-level resource assessments and making

recommendations. If specific projects are identified for potential implementation under existing USACE authorities (for example, flood damage reduction or ecosystem restoration), separate studies could be conducted to describe specific project features and include detailed engineering and National Environmental Policy Act (NEPA) documentation.

This letter is to inform the United States Fish and Wildlife Service (USFWS) of the Watershed Study. As described above, the Watershed study could recommend potential future studies that may require coordination under the Fish and Wildlife Coordination Act (FWCA) and Section 7 consultation. In addition, if there are any USFWS watershed level efforts (projects/studies), properties, or concerns that should be considered by the planning team, the USACE would appreciate any available information. As part of the scope of work the USACE is conducting extensive public outreach and stakeholder coordination. If your agency would like to participate in stakeholder coordination meetings please let us know.

The USACE conducted an initial assessment of the proposed study area and review of the USFWS Information, Planning, and Conservation System (IPAC) completed on 23 October 2020 (Attachment). Due to the large study area the IPAC was completed for 3 sub basins, the Kansas River sub basin, Republican River sub basin, and the Smoky Hill River sub basin. The study's location is within the jurisdiction of multiple USFWS field offices. Species lists and critical habitats that fall within each field office jurisdiction were provided. Within the jurisdiction of the Kansas Field Office the USACE identified five federally listed species: Least Tern, Piping Plover, Whooping Crane, Topeka Shiner, and Northern Long-eared Bat; and 35 species of migratory birds within the Kansas River and Republican River sub basins. Within the Smoky Hill River sub basin the USACE identified seven federally listed species: Least Tern, Piping Plover, Whooping Crane, Topeka Shiner, Neosho Madtom, Black-footed Ferret, and Northern Long-eared Bat; and 33 species of migratory birds. To assist with our planning efforts please provide additional information regarding these or any other federally listed species, candidate species, or designated critical habitat known to be within or adjacent to the project area.

If your agency has any additional concerns, questions, or comments on the proposed study, please contact the project manager, Ms. Laura Totten at laura.a.totten@usace.army.mil or (816) 389-2137; or the environmental planner, Mr. Jeff Tripe at jeffry.a.tripe@usace.army.mil or 816-289-4178. As part of the Watershed Study process, we will provide a Draft Watershed Study Report for agency and public review, which outlines the goals and objectives, existing environmental conditions, project future conditions, proposed measures and strategies, and recommendations for future actions. We anticipate that the Draft Watershed Study Report will be available for public review in the fall of 2023.

Sincerely,

Acting

Jason Farmer
Chief, Environmental Resources Section

Enclosures

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Kansas Ecological Services Field Office
2609 Anderson Avenue
Manhattan, KS 66502-2801
Phone: (785) 539-3474 Fax: (785) 539-8567

In Reply Refer To: October 23, 2020
Consultation Code: 06E21000-2021-SLI-0058
Event Code: 06E21000-2021-E-00216
Project Name: Kansas River Watershed Study - Kansas River Sub Basin

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/endangered/esa-library/pdf/esa_section7_handbook.pdf

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*)(https://www.fws.gov/birds/management/managed-species/eagle-management.php), and wind projects affecting these species may require development of an eagle conservation plan (https://www.fws.gov/migratorybirds/pdf/management/eagleconservationplanguidance.pdf). Additionally, wind energy projects should follow the wind energy guidelines (https://www.fws.gov/ecological-services/energy-development/wind.html) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: https://www.fws.gov/birds/management/project-assessment-tools-and-guidance.php

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Kansas Ecological Services Field Office
2609 Anderson Avenue
Manhattan, KS 66502-2801
(785) 539-3474

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following offices, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

Missouri Ecological Services Field Office
101 Park Deville Drive
Suite A
Columbia, MO 65203-0057
(573) 234-2132

Nebraska Ecological Services Field Office
9325 B South Alda Rd., Ste B
Wood River, NE 68883-9565
(308) 382-6468

Project Summary

Consultation Code: 06E21000-2021-SLI-0058

Event Code: 06E21000-2021-E-00216

Project Name: Kansas River Watershed Study - Kansas River Sub Basin

Project Type: ** OTHER **

Project Description: The Watershed Study will investigate water resource issues and opportunities in the Kansas River Basin to recommend comprehensive, long-term solutions based on a Shared Vision for the basin. These long-term solutions may include recommendations for potential involvement by the USACE, other federal agencies, or non-federal interests. The Watershed Study will integrate water and related land resource management considerations, seeking sustainable water resources management and taking into account various additional considerations. Ultimately, the Watershed Study should inform multiple stakeholders and decision makers at all levels of government and provide a strategic roadmap to inform future investment decisions by multiple agencies. Significant need and opportunities exist in the areas of sediment management, flood risk management, water supply availability and sustainment, ecosystem restoration, navigation, and recreation. This integrated Watershed Study will focus attention on multiple objectives and tradeoffs, provide better accounting for uncertainty, and accommodate the concepts of adaptive management, stakeholder collaboration, and systems analysis for watershed-scale planning and evaluation.
The Watershed Study will build from the extensive research, planning, outreach and documentation in the Kansas Water Plan (2014) and Vision for the Future of Water Supply in Kansas (2015)(Vision). The State of Kansas uses the Kansas Water Plan as a primary tool to address current water resource issues for future needs. The Kansas Water Office (KWO), in coordination with local, state, federal and interstate partners, updates the Kansas Water Plan every 5 years. Water resource issues addressed in the Kansas Water Plan extend beyond water supply and include goals and priorities, such as improving the state’s water quality and improving recreational opportunities available to citizens. The Vision, currently in update, guides the Kansas Water Plan, which provides 5-year milestone events to measure Vision success. Revisions to the Vision will be used to develop this Watershed Study as necessary.

This is one of 3 sub basins that will have individual IPAC Reports conducted due to file size.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/39.96181348328375N97.04300428963413W

Counties: Atchison, KS | Brown, KS | Clay, KS | Douglas, KS | Geary, KS | Jackson, KS | Jefferson, KS | Johnson, KS | Leavenworth, KS | Marshall, KS | Morris, KS | Nemaha, KS | Osage, KS | Pottawatomie, KS | Republic, KS | Riley, KS | Shawnee, KS | Wabaunsee, KS | Washington, KS | Wyandotte, KS | Jackson, MO | Adams, NE | Butler, NE | Clay, NE | Fillmore, NE | Franklin, NE | Gage, NE | Hall, NE | Hamilton, NE | Jefferson, NE | Kearney, NE | Lancaster, NE | Merrick, NE | Nuckolls, NE | Pawnee, NE | Polk, NE | Saline, NE | Seward, NE | Thayer, NE | Webster, NE | York, NE

Endangered Species Act Species

There is a total of 9 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Birds

NAME	STATUS
Least Tern *Sterna antillarum* Population: interior pop. No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8505	Endangered
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Whooping Crane *Grus americana* Population: Wherever found, except where listed as an experimental population There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/758	Endangered

Fishes

NAME	STATUS
Neosho Madtom *Noturus placidus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2577	Threatened
Pallid Sturgeon *Scaphirhynchus albus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7162	Endangered
Topeka Shiner *Notropis topeka (=tristis)* Population: Wherever found, except where listed as an experimental population There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4122	Endangered

Flowering Plants

NAME	STATUS
Mead's Milkweed *Asclepias meadii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8204	Threatened
Western Prairie Fringed Orchid *Platanthera praeclara* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1669	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

The following FWS National Wildlife Refuge Lands and Fish Hatcheries lie fully or partially within your project area:

FACILITY NAME	ACRES
Flint Hills National Wildlife Refuge	12,500

Flint Hills National Wildlife Refuge
P.O. Box 128
Hartford, KS 66854-0128
(620) 392-5553

https://www.fws.gov/refuges/profiles/index.cfm?id=64580

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Bittern *Botaurus lentiginosus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/6582	Breeds Apr 1 to Aug 31
American Golden-plover *Pluvialis dominica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31
Black Rail *Laterallus jamaicensis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/7717	Breeds Mar 1 to Sep 15
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Buff-breasted Sandpiper *Calidris subruficollis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9488	Breeds elsewhere
Cerulean Warbler *Dendroica cerulea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/2974	Breeds Apr 21 to Jul 20
Dunlin *Calidris alpina arcticola* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Eastern Whip-poor-will *Antrostomus vociferus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Harris's Sparrow *Zonotrichia querula* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere

NAME	BREEDING SEASON
Henslow's Sparrow *Ammodramus henslowii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3941	Breeds May 1 to Aug 31
Hudsonian Godwit *Limosa haemastica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Kentucky Warbler *Oporornis formosus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 20
King Rail *Rallus elegans* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8936	Breeds May 1 to Sep 5
Lark Bunting *Calamospiza melanocorys* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 10 to Aug 15
Least Bittern *Ixobrychus exilis* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/6175	Breeds Aug 16 to Oct 31
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Prothonotary Warbler *Protonotaria citrea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Ruddy Turnstone *Arenaria interpres morinella* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere

NAME	BREEDING SEASON
Semipalmated Sandpiper *Calidris pusilla* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Short-billed Dowitcher *Limnodromus griseus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Smith's Longspur *Calcarius pictus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Sprague's Pipit *Anthus spragueii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8964	Breeds elsewhere
Whimbrel *Numenius phaeopus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9483	Breeds elsewhere
Willet *Tringa semipalmata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ “Proper Interpretation and Use of Your Migratory Bird Report” before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

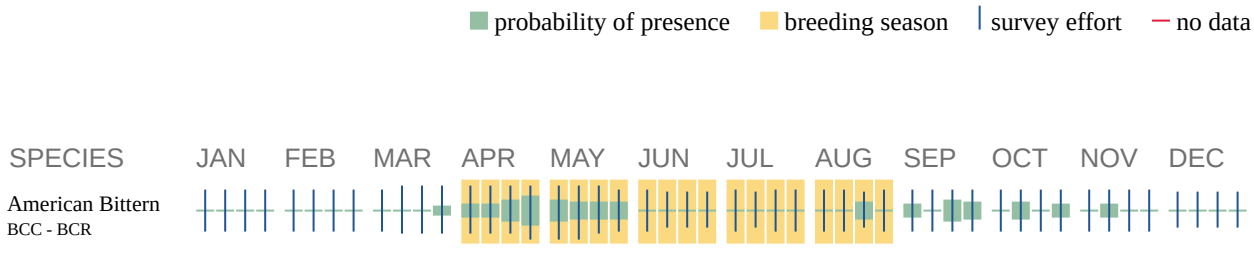
1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

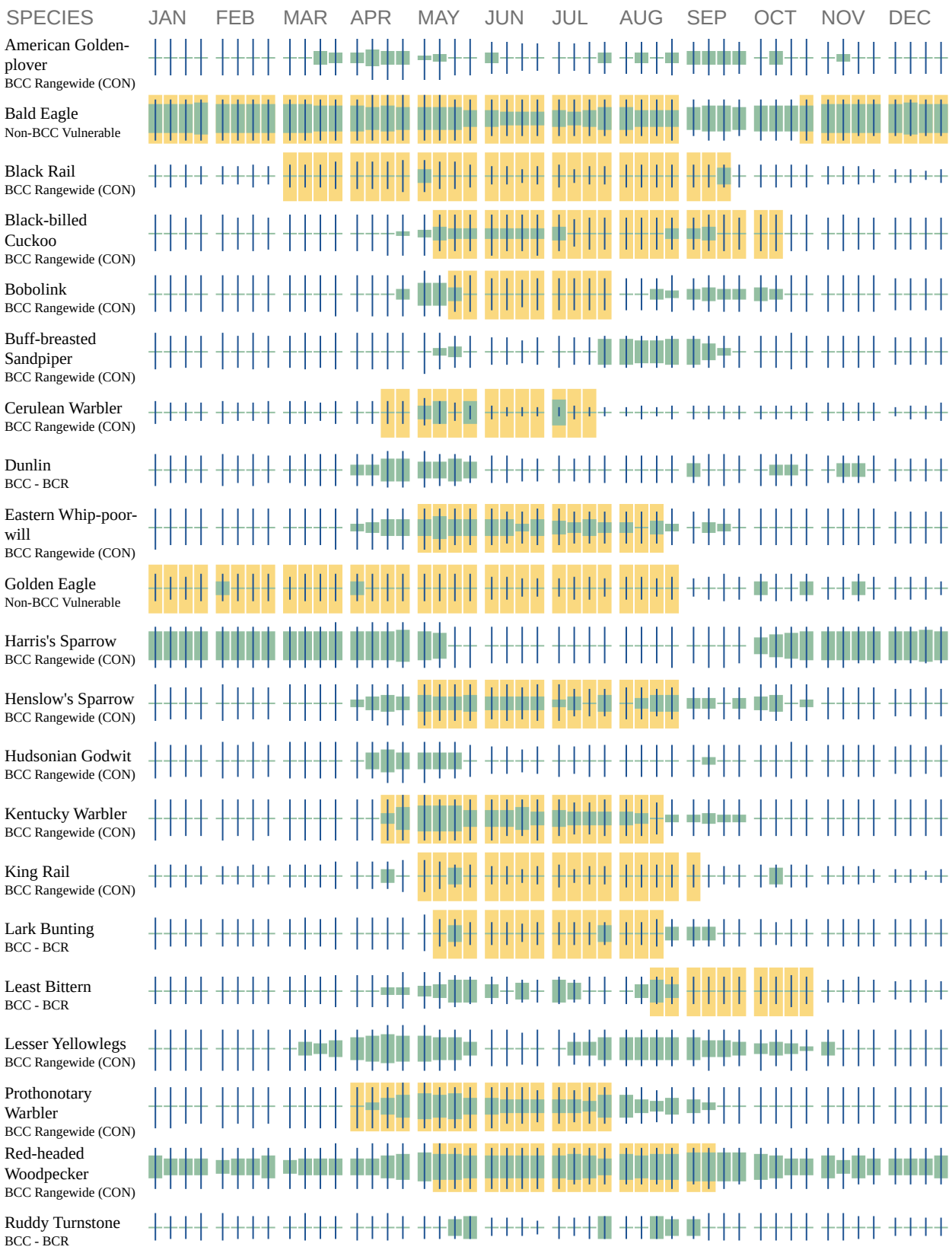
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

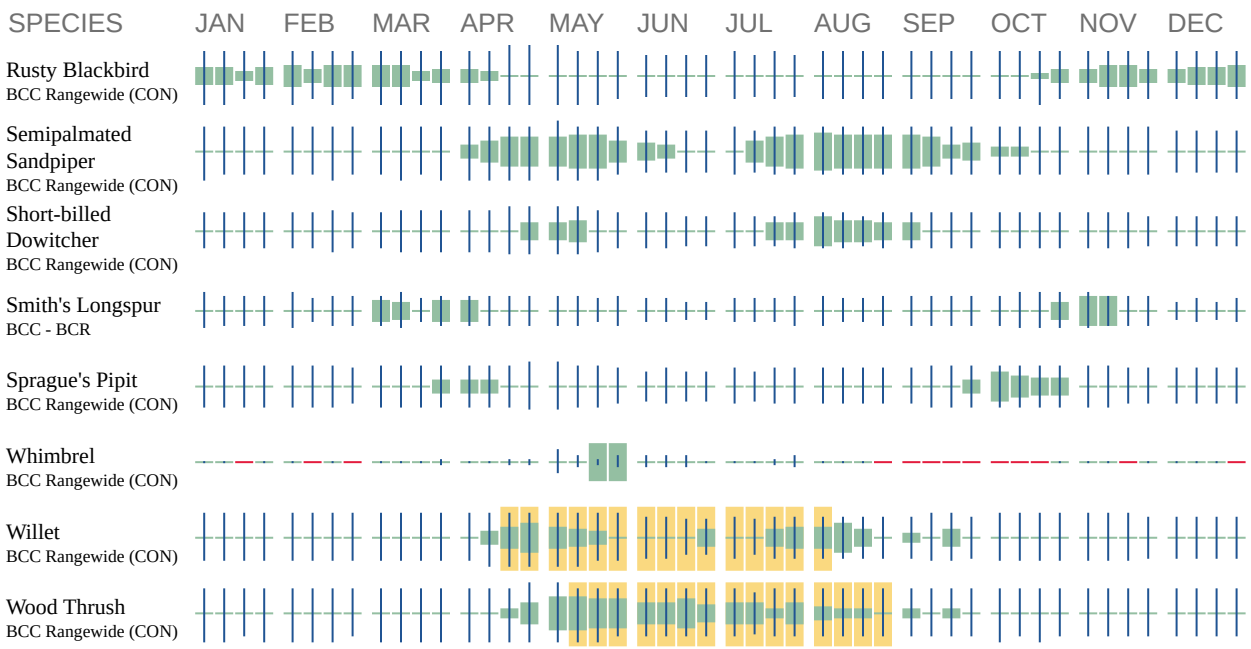
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.




SPECIES
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
American Golden-plover
BCC Rangewide (CON)
Bald Eagle
Non-BCC Vulnerable
Black Rail
BCC Rangewide (CON)
Black-billed Cuckoo
BCC Rangewide (CON)
Bobolink
BCC Rangewide (CON)
Buff-breasted Sandpiper
BCC Rangewide (CON)
Cerulean Warbler
BCC Rangewide (CON)
Dunlin
BCC - BCR
Eastern Whip-poor-will
BCC Rangewide (CON)
Golden Eagle
Non-BCC Vulnerable
Harris's Sparrow
BCC Rangewide (CON)
Henslow's Sparrow
BCC Rangewide (CON)
Hudsonian Godwit
BCC Rangewide (CON)
Kentucky Warbler
BCC Rangewide (CON)
King Rail
BCC Rangewide (CON)
Lark Bunting
BCC - BCR
Least Bittern
BCC - BCR
Lesser Yellowlegs
BCC Rangewide (CON)
Prothonotary Warbler
BCC Rangewide (CON)
Red-headed Woodpecker
BCC Rangewide (CON)
Ruddy Turnstone
BCC - BCR



Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and

3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell

me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

Due to your project's size, the list below may be incomplete, or the acreages reported may be inaccurate. For a full list, please contact the local U.S. Fish and Wildlife office or visit https://www.fws.gov/wetlands/data/mapper.HTML

FRESHWATER POND

- PABF
- PABFh

LAKE

- L1UBGh
- L1UBH
- L1UBHh
- L1UBHx
- L2ABFh
- L2ABG
- L2UBF
- L2UBFh
- L2UBHh
- L2USAh
- L2USC
- L2USCh
- L2USCx

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Kansas Ecological Services Field Office
2609 Anderson Avenue
Manhattan, KS 66502-2801
Phone: (785) 539-3474 Fax: (785) 539-8567

In Reply Refer To: October 23, 2020
Consultation Code: 06E21000-2021-SLI-0059
Event Code: 06E21000-2021-E-00218
Project Name: Kansas River Watershed Study - Republican River Sub Basin

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/endangered/esa-library/pdf/esa_section7_handbook.pdf

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*)(https://www.fws.gov/birds/management/managed-species/eagle-management.php), and wind projects affecting these species may require development of an eagle conservation plan (https://www.fws.gov/migratorybirds/pdf/management/eagleconservationplanguidance.pdf). Additionally, wind energy projects should follow the wind energy guidelines (https://www.fws.gov/ecological-services/energy-development/wind.html) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: https://www.fws.gov/birds/management/project-assessment-tools-and-guidance.php

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Kansas Ecological Services Field Office
2609 Anderson Avenue
Manhattan, KS 66502-2801
(785) 539-3474

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following offices, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

Colorado Ecological Services Field Office
Denver Federal Center
P.O. Box 25486
Denver, CO 80225-0486
(303) 236-4773

Nebraska Ecological Services Field Office
9325 B South Alda Rd., Ste B
Wood River, NE 68883-9565
(308) 382-6468

Project Summary

Consultation Code: 06E21000-2021-SLI-0059

Event Code: 06E21000-2021-E-00218

Project Name: Kansas River Watershed Study - Republican River Sub Basin

Project Type: ** OTHER **

Project Description: The Watershed Study will investigate water resource issues and opportunities in the Kansas River Basin to recommend comprehensive, long-term solutions based on a Shared Vision for the basin. These long-term solutions may include recommendations for potential involvement by the USACE, other federal agencies, or non-federal interests. The Watershed Study will integrate water and related land resource management considerations, seeking sustainable water resources management and taking into account various additional considerations. Ultimately, the Watershed Study should inform multiple stakeholders and decision makers at all levels of government and provide a strategic roadmap to inform future investment decisions by multiple agencies. Significant need and opportunities exist in the areas of sediment management, flood risk management, water supply availability and sustainment, ecosystem restoration, navigation, and recreation. This integrated Watershed Study will focus attention on multiple objectives and tradeoffs, provide better accounting for uncertainty, and accommodate the concepts of adaptive management, stakeholder collaboration, and systems analysis for watershed-scale planning and evaluation. The Watershed Study will build from the extensive research, planning, outreach and documentation in the Kansas Water Plan (2014) and Vision for the Future of Water Supply in Kansas (2015)(Vision). The State of Kansas uses the Kansas Water Plan as a primary tool to address current water resource issues for future needs. The Kansas Water Office (KWO), in coordination with local, state, federal and interstate partners, updates the Kansas Water Plan every 5 years. Water resource issues addressed in the Kansas Water Plan extend beyond water supply and include goals and priorities, such as improving the state’s water quality and improving recreational opportunities available to citizens. The Vision, currently in update, guides the Kansas Water Plan, which provides 5-year milestone events to measure Vision success. Revisions to the Vision will be used to develop this Watershed Study as necessary.

This is one of 3 sub basins that will have individual IPAC Reports conducted due to file size.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/40.033319104526925N100.5968833886262W

Counties: Cheyenne, CO | Elbert, CO | Kit Carson, CO | Lincoln, CO | Logan, CO | Phillips, CO | Sedgwick, CO | Washington, CO | Yuma, CO | Cheyenne, KS | Clay, KS | Cloud, KS | Decatur, KS | Dickinson, KS | Geary, KS | Jewell, KS | Mitchell, KS | Norton, KS | Phillips, KS | Rawlins, KS | Republic, KS | Riley, KS | Sheridan, KS | Sherman, KS | Smith, KS | Thomas, KS | Washington, KS | Chase, NE | Dundy, NE | Franklin, NE | Frontier, NE | Furnas, NE | Gosper, NE | Harlan, NE | Hayes, NE | Hitchcock, NE | Kearney, NE | Keith, NE | Lincoln, NE | Nuckolls, NE | Perkins, NE | Phelps, NE | Red Willow, NE | Thayer, NE | Webster, NE

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Birds

NAME	STATUS
Least Tern *Sterna antillarum* Population: interior pop. No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8505	Endangered
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Whooping Crane *Grus americana* Population: Wherever found, except where listed as an experimental population There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/758	Endangered

Fishes

NAME	STATUS
Topeka Shiner *Notropis topeka (=tristis)*	Endangered

Population: Wherever found, except where listed as an experimental population

There is **final** critical habitat for this species. Your location is outside the critical habitat.

Species profile: https://ecos.fws.gov/ecp/species/4122

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Bittern *Botaurus lentiginosus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/6582	Breeds Apr 1 to Aug 31
American Golden-plover *Pluvialis dominica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Buff-breasted Sandpiper *Calidris subruficollis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9488	Breeds elsewhere
Burrowing Owl *Athene cunicularia* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9737	Breeds Mar 15 to Aug 31
Cassin's Sparrow *Aimophila cassinii* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9512	Breeds Aug 1 to Oct 10
Chestnut-collared Longspur *Calcarius ornatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 10
Dunlin *Calidris alpina arcticola* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Eastern Whip-poor-will *Antrostomus vociferus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20
Harris's Sparrow *Zonotrichia querula* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere

NAME	BREEDING SEASON
Henslow's Sparrow *Ammodramus henslowii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3941	Breeds May 1 to Aug 31
Hudsonian Godwit *Limosa haemastica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Kentucky Warbler *Oporornis formosus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 20
King Rail *Rallus elegans* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8936	Breeds May 1 to Sep 5
Lark Bunting *Calamospiza melanocorys* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 10 to Aug 15
Least Bittern *Ixobrychus exilis* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/6175	Breeds Aug 16 to Oct 31
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Long-billed Curlew *Numenius americanus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5511	Breeds Apr 1 to Jul 31
Mccown's Longspur *Calcarius mccownii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9292	Breeds May 1 to Aug 15
Prothonotary Warbler *Protonotaria citrea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31

NAME	BREEDING SEASON
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Ruddy Turnstone *Arenaria interpres morinella* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Semipalmated Sandpiper *Calidris pusilla* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Short-billed Dowitcher *Limnodromus griseus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Sprague's Pipit *Anthus spragueii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8964	Breeds elsewhere
Whimbrel *Numenius phaeopus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9483	Breeds elsewhere
Willet *Tringa semipalmata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5
Willow Flycatcher *Empidonax traillii* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/3482	Breeds May 20 to Aug 31
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ “Proper Interpretation and Use of Your Migratory Bird Report” before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

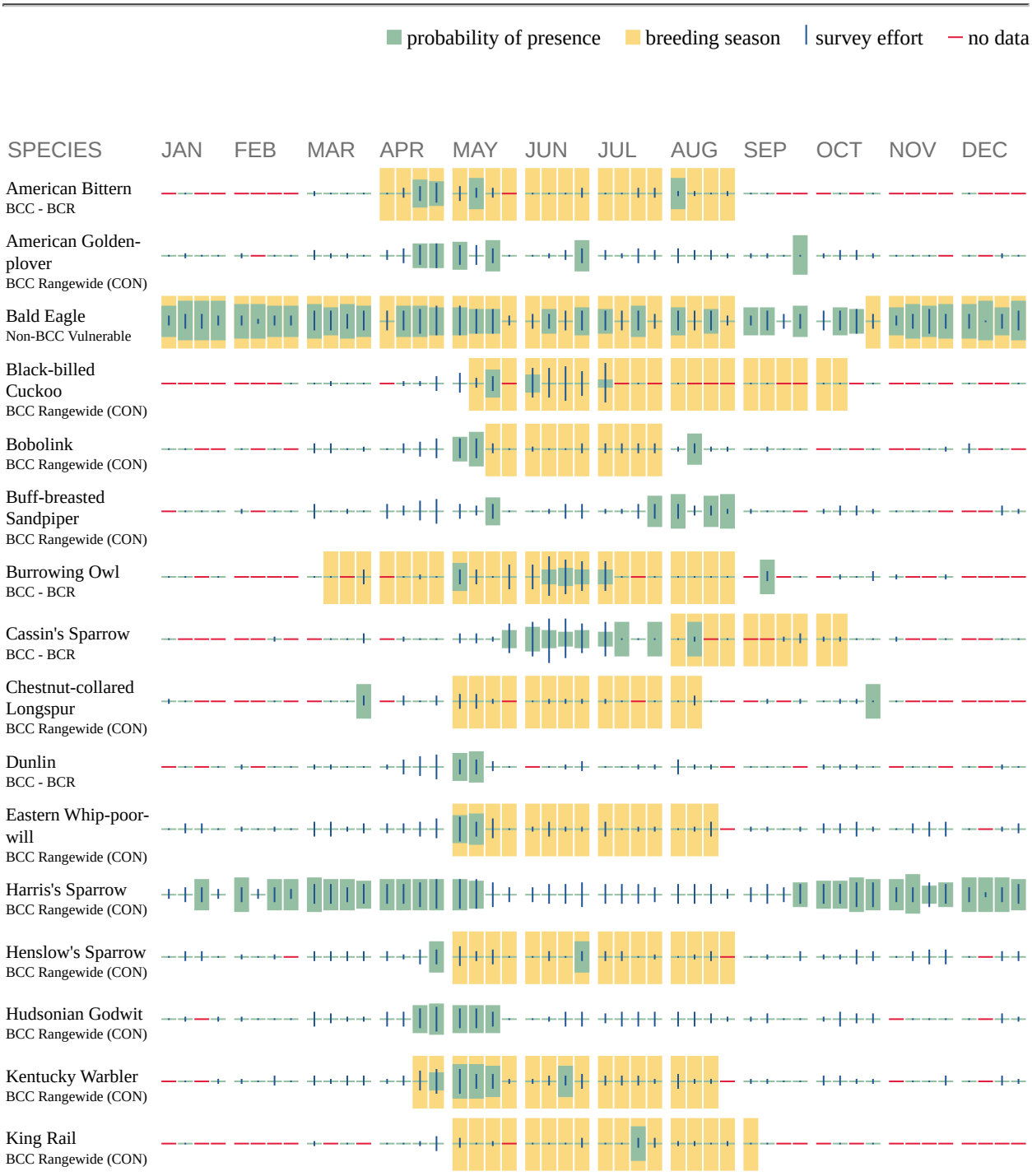
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.
Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?
The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of

interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC

use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

Due to your project's size, the list below may be incomplete, or the acreages reported may be inaccurate. For a full list, please contact the local U.S. Fish and Wildlife office or visit https://www.fws.gov/wetlands/data/mapper.HTML

FRESHWATER POND

- PABF
- PABFb
- PABFh

LAKE

- L1UBGx
- L1UBHh
- L1UBHx
- L2ABFh
- L2ABGh
- L2UBFx
- L2UBGh
- L2USAh
- L2USC
- L2USCh

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Kansas Ecological Services Field Office
2609 Anderson Avenue
Manhattan, KS 66502-2801
Phone: (785) 539-3474 Fax: (785) 539-8567

In Reply Refer To: October 23, 2020
Consultation Code: 06E21000-2021-SLI-0060
Event Code: 06E21000-2021-E-00220
Project Name: Kansas River Watershed Study - Smoky Hill Sub Basin

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/endangered/esa-library/pdf/esa_section7_handbook.pdf

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*)(https://www.fws.gov/birds/management/managed-species/eagle-management.php), and wind projects affecting these species may require development of an eagle conservation plan (https://www.fws.gov/migratorybirds/pdf/management/eagleconservationplanguidance.pdf). Additionally, wind energy projects should follow the wind energy guidelines (https://www.fws.gov/ecological-services/energy-development/wind.html) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: https://www.fws.gov/birds/management/project-assessment-tools-and-guidance.php

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Kansas Ecological Services Field Office
2609 Anderson Avenue
Manhattan, KS 66502-2801
(785) 539-3474

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following offices, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

Colorado Ecological Services Field Office
Denver Federal Center
P.O. Box 25486
Denver, CO 80225-0486
(303) 236-4773

Nebraska Ecological Services Field Office
9325 B South Alda Rd., Ste B
Wood River, NE 68883-9565
(308) 382-6468

Project Summary

Consultation Code: 06E21000-2021-SLI-0060

Event Code: 06E21000-2021-E-00220

Project Name: Kansas River Watershed Study - Smoky Hill Sub Basin

Project Type: ** OTHER **

Project Description: The Watershed Study will investigate water resource issues and opportunities in the Kansas River Basin to recommend comprehensive, long-term solutions based on a Shared Vision for the basin. These long-term solutions may include recommendations for potential involvement by the USACE, other federal agencies, or non-federal interests. The Watershed Study will integrate water and related land resource management considerations, seeking sustainable water resources management and taking into account various additional considerations. Ultimately, the Watershed Study should inform multiple stakeholders and decision makers at all levels of government and provide a strategic roadmap to inform future investment decisions by multiple agencies. Significant need and opportunities exist in the areas of sediment management, flood risk management, water supply availability and sustainment, ecosystem restoration, navigation, and recreation. This integrated Watershed Study will focus attention on multiple objectives and tradeoffs, provide better accounting for uncertainty, and accommodate the concepts of adaptive management, stakeholder collaboration, and systems analysis for watershed-scale planning and evaluation. The Watershed Study will build from the extensive research, planning, outreach and documentation in the Kansas Water Plan (2014) and Vision for the Future of Water Supply in Kansas (2015)(Vision). The State of Kansas uses the Kansas Water Plan as a primary tool to address current water resource issues for future needs. The Kansas Water Office (KWO), in coordination with local, state, federal and interstate partners, updates the Kansas Water Plan every 5 years. Water resource issues addressed in the Kansas Water Plan extend beyond water supply and include goals and priorities, such as improving the state’s water quality and improving recreational opportunities available to citizens. The Vision, currently in update, guides the Kansas Water Plan, which provides 5-year milestone events to measure Vision success. Revisions to the Vision will be used to develop this Watershed Study as necessary.

This is one of 3 sub basins that will have individual IPAC Reports conducted due to file size.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/39.19261552666521N99.68024455206864W

Counties: Cheyenne, CO | Kit Carson, CO | Barton, KS | Clay, KS | Cloud, KS | Decatur, KS | Dickinson, KS | Ellis, KS | Ellsworth, KS | Geary, KS | Gove, KS | Graham, KS | Greeley, KS | Jewell, KS | Lane, KS | Lincoln, KS | Logan, KS | Marion, KS | McPherson, KS | Mitchell, KS | Morris, KS | Ness, KS | Norton, KS | Osborne, KS | Ottawa, KS | Phillips, KS | Rice, KS | Rooks, KS | Rush, KS | Russell, KS | Saline, KS | Scott, KS | Sheridan, KS | Sherman, KS | Smith, KS | Thomas, KS | Trego, KS | Wallace, KS | Wichita, KS | Franklin, NE

Endangered Species Act Species

There is a total of 7 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Black-footed Ferret *Mustela nigripes* Population: Wherever found, except where listed as an experimental population No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: ▪ Special incidental take provisions pursuant to Section 10(a)(1)(A) of the ESA apply to a reintroduced population of black-footed ferrets. Contact the Kansas Ecological Services Field Office for additional details. Species profile: https://ecos.fws.gov/ecp/species/6953	Endangered
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Birds

NAME	STATUS
Least Tern *Sterna antillarum* Population: interior pop. No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8505	Endangered
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Whooping Crane *Grus americana* Population: Wherever found, except where listed as an experimental population There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/758	Endangered

Fishes

NAME	STATUS
Neosho Madtom *Noturus placidus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2577	Threatened
Topeka Shiner *Notropis topeka (=tristis)* Population: Wherever found, except where listed as an experimental population There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4122	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

The following FWS National Wildlife Refuge Lands and Fish Hatcheries lie fully or partially within your project area:

FACILITY NAME	ACRES
Kirwin National Wildlife Refuge	10,800

Kirwin National Wildlife Refuge
702 East Xavier Road
Kirwin, KS 67644-3505
(785) 543-6673

https://www.fws.gov/refuges/profiles/index.cfm?id=64610

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Bittern *Botaurus lentiginosus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/6582	Breeds Apr 1 to Aug 31
American Golden-plover *Pluvialis dominica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Buff-breasted Sandpiper *Calidris subruficollis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9488	Breeds elsewhere
Burrowing Owl *Athene cunicularia* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9737	Breeds Mar 15 to Aug 31
Cassin's Sparrow *Aimophila cassinii* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9512	Breeds Aug 1 to Oct 10
Chestnut-collared Longspur *Calcarius ornatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 10
Dunlin *Calidris alpina arcticola* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Eastern Whip-poor-will *Antrostomus vociferus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20
Golden Eagle *Aquila chrysaetos* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

NAME	BREEDING SEASON
Harris's Sparrow *Zonotrichia querula* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Henslow's Sparrow *Ammodramus henslowii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3941	Breeds May 1 to Aug 31
Hudsonian Godwit *Limosa haemastica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Kentucky Warbler *Oporornis formosus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 20
Lark Bunting *Calamospiza melanocorys* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 10 to Aug 15
Least Bittern *Ixobrychus exilis* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/6175	Breeds Aug 16 to Oct 31
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Lewis's Woodpecker *Melanerpes lewis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9408	Breeds Apr 20 to Sep 30
Long-billed Curlew *Numenius americanus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5511	Breeds Apr 1 to Jul 31
Mccown's Longspur *Calcarius mccownii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9292	Breeds May 1 to Aug 15

NAME	BREEDING SEASON
Prothonotary Warbler *Protonotaria citrea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Ruddy Turnstone *Arenaria interpres morinella* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Semipalmated Sandpiper *Calidris pusilla* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Short-billed Dowitcher *Limnodromus griseus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Sprague's Pipit *Anthus spragueii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8964	Breeds elsewhere
Whimbrel *Numenius phaeopus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9483	Breeds elsewhere
Willet *Tringa semipalmata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5
Willow Flycatcher *Empidonax traillii* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/3482	Breeds May 20 to Aug 31
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ “Proper Interpretation and Use of Your Migratory Bird Report” before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

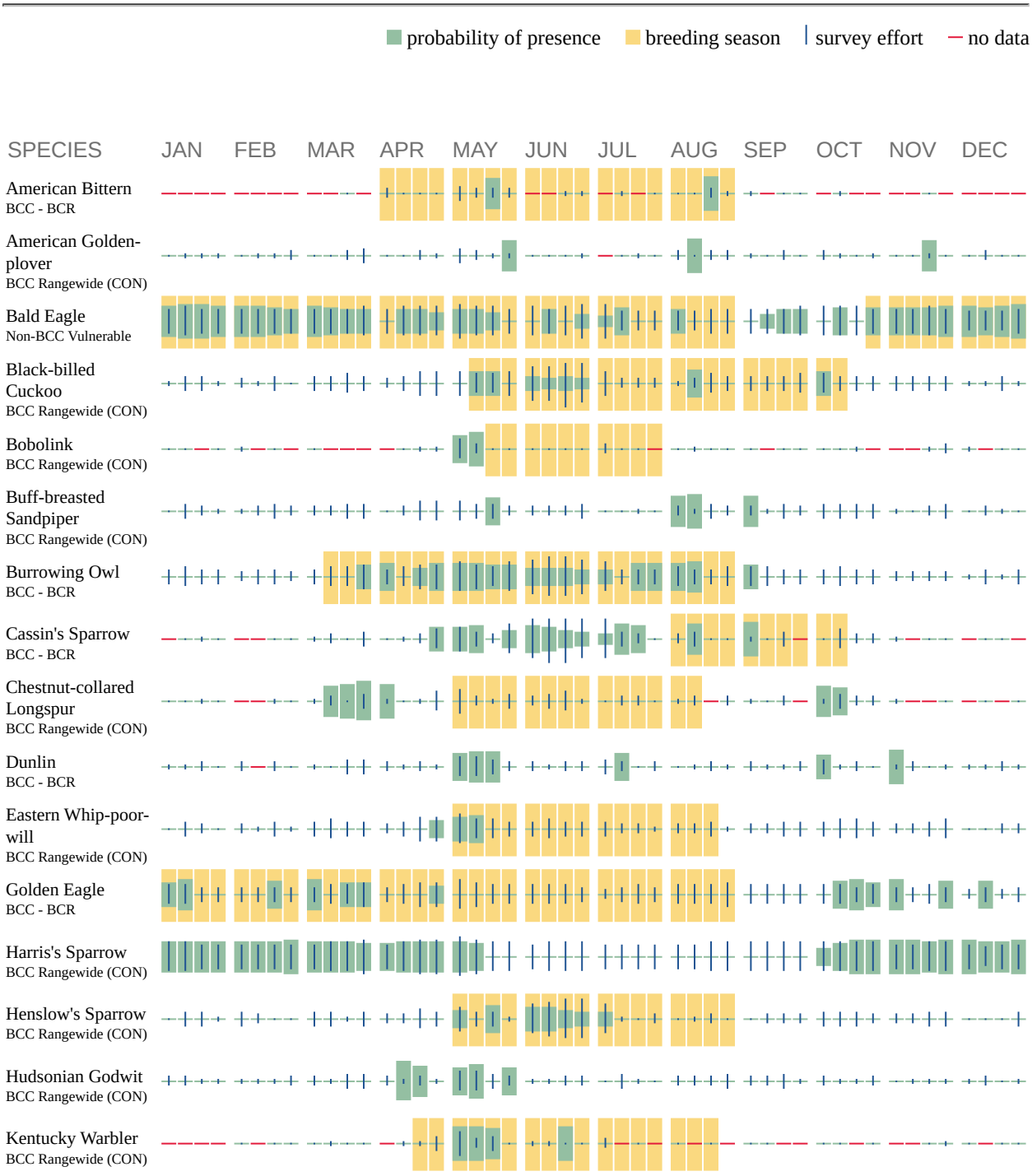
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php

- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.
Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?
The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

Due to your project's size, the list below may be incomplete, or the acreages reported may be inaccurate. For a full list, please contact the local U.S. Fish and Wildlife office or visit https://www.fws.gov/wetlands/data/mapper.HTML

FRESHWATER POND

- PABF
- PABFh

LAKE

- L1UBG
- L1UBGh
- L1UBGx
- L1UBHh
- L2ABF
- L2ABFh
- L2ABG
- L2ABGh
- L2UBFh
- L2UBGx
- L2USAh
- L2USCh

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, KANSAS CITY DISTRICT
635 FEDERAL BLDG
601 E 12TH STREET
KANSAS CITY, MISSOURI 64106-2824

Planning Branch

Karen Herrington
Missouri Field Supervisor
U.S. Fish and Wildlife Service, Missouri Field Office
101 Park DeVille Drive, Suite A
Columbia, MO 65203-0057

Dear Ms. Herrington:

The Kansas City District, U.S. Army Corps of Engineers (USACE), Kansas Water Office (KWO), and Kansas Department of Wildlife, Parks and Tourism (KDWPT) are conducting the Kansas River Reservoirs Flood and Sediment Study (Watershed Study). The study area includes the Kansas River Basin in parts of Kansas, Nebraska, Missouri, and Colorado (Figure 1). The Watershed Study is authorized by the Resolution of the Senate Committee on Environment and Public Works, Kansas River and Tributaries, May 23, 2006 and Section 729 of the Water Resources Development Act (WRDA) of 1986, as amended (33 U.S.C. § 2267a). Section 729 and other specifically authorized watershed authorities allow USACE to study the water resources needs of river basins and regions of the United States.

The Watershed Study will investigate water and related land resource issues and opportunities in the Kansas River Basin to recommend comprehensive, long-term, and sustainable water resource solutions and management based on a Shared Vision for the basin. These long- term solutions may include recommendations for potential involvement by the USACE, other federal agencies, or non-federal interests. Ultimately, the Watershed Study should inform stakeholders and decision makers at all levels of government and provide a strategic roadmap to inform future investment decisions by multiple agencies. Watershed studies are completed in a single phase and include three milestones: Shared Vision, Recommendations, and Final Report. The Watershed Study is currently in the Shared Vision milestone phase of the study, which will identify problems and opportunities, inventory baseline conditions and project future conditions, and identify measures and strategies to address problems.

Significant need and opportunities exist in the areas of sediment management, flood risk management, water supply availability and sustainment, ecosystem restoration, water quality, and recreation. This Watershed Study will focus attention on multiple objectives and tradeoffs, provide better accounting for uncertainty, and accommodate the concepts of adaptive management, stakeholder collaboration, and systems analysis for watershed-scale planning and evaluation.

Watershed studies are not project implementation documents. The level of detail is adequate for conducting watershed-level resource assessments and making

recommendations. If specific projects are identified for potential implementation under existing USACE authorities (for example, flood damage reduction or ecosystem restoration), separate studies could be conducted to describe specific project features and include detailed engineering and National Environmental Policy Act (NEPA) documentation.

This letter is to inform the United States Fish and Wildlife Service (USFWS) of the Watershed Study. As described above, the Watershed study could recommend potential future studies that may require coordination under the Fish and Wildlife Coordination Act (FWCA) and Section 7 consultation. In addition, if there are any USFWS watershed level efforts (projects/studies), properties, or concerns that should be considered by the planning team, the USACE would appreciate any available information. As part of the scope of work the USACE is conducting extensive public outreach and stakeholder coordination. If your agency would like to participate in stakeholder coordination meetings please let us know.

The USACE conducted an initial assessment of the proposed study area and review of the USFWS Information, Planning, and Conservation System (IPAC) completed on 23 October 2020 (Attachment). Due to the large study area the IPAC was completed for 3 sub basins, the Kansas River sub basin, Republican River sub basin, and the Smoky Hill River sub basin. The study's location is within the jurisdiction of multiple USFWS field offices. Species lists and critical habitats that fall within each field office jurisdiction were provided. Within the jurisdiction of the Missouri Field Office the USACE identified three federally listed species: Gray Bat, Indiana Bat, and Northern Long-eared Bat within the Kansas River sub basin. To assist with our planning efforts please provide additional information regarding these or any other federally listed species, candidate species, or designated critical habitat known to be within or adjacent to the project area.

If your agency has any additional concerns, questions, or comments on the proposed study, please contact the project manager, Ms. Laura Totten at laura.a.totten@usace.army.mil or (816) 389-2137; or the environmental planner, Mr. Jeff Tripe at jeffry.a.tripe@usace.army.mil or 816-289-4178. As part of the Watershed Study process, we will provide a Draft Watershed Study Report for agency and public review, which outlines the goals and objectives, existing environmental conditions, project future conditions, proposed measures and strategies, and recommendations for future actions. We anticipate that the Draft Watershed Study Report will be ready for public review in the fall 2023.

Sincerely,

Acting

Jason Farmer
Chief, Environmental Resources Section

Enclosures

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Missouri Ecological Services Field Office
101 Park Deville Drive
Suite A
Columbia, MO 65203-0057
Phone: (573) 234-2132 Fax: (573) 234-2181

In Reply Refer To: October 23, 2020
Consultation Code: 03E14000-2021-SLI-0143
Event Code: 03E14000-2021-E-00382
Project Name: Kansas River Watershed Study - Kansas River Sub Basin

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

This response has been generated by the Information, Planning, and Conservation (IPaC) system to provide information on natural resources that could be affected by your project. The U.S. Fish and Wildlife Service (Service) provides this response under the authority of the Endangered Species Act of 1973 (16 U.S.C. 1531-1543), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d), the Migratory Bird Treaty Act (16 U.S.C. 703-712), and the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.).

Threatened and Endangered Species

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and may be affected by your proposed project. The species list fulfills the requirement for obtaining a Technical Assistance Letter from the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. N**ote that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days.** The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

Consultation Technical Assistance

Refer to the Midwest Region S7 Technical Assistance website for step-by-step instructions for making species determinations and for specific guidance on the following types of projects: projects in developed areas, HUD, pipelines, buried utilities, telecommunications, and requests for a Conditional Letter of Map Revision (CLOMR) from FEMA.

Federally Listed Bat Species

Indiana bats, gray bats, and northern long-eared bats occur throughout Missouri and the information below may help in determining if your project may affect these species.

Gray bats - Gray bats roost in caves or mines year-round and use water features and forested riparian corridors for foraging and travel. If your project will impact caves, mines, associated riparian areas, or will involve tree removal around these features particularly within stream corridors, riparian areas, or associated upland woodlots gray bats could be affected.

Indiana and northern long-eared bats - These species hibernate in caves or mines only during the winter. In Missouri the hibernation season is considered to be November 1 to March 31. During the active season in Missouri (April 1 to October 31) they roost in forest and woodland habitats. Suitable summer habitat for Indiana bats and northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags 5 inches diameter at breast height (dbh) for Indiana bat, and 3 inches dbh for northern long-eared bat, that have exfoliating bark, cracks, crevices, and/or hollows), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Tree species often include, but are not limited to, shellbark or shagbark hickory, white oak, cottonwood, and maple. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat and evaluated for use by bats. If your project will impact caves or mines or will involve clearing forest or woodland habitat containing suitable roosting habitat, Indiana bats or northern long-eared bats could be affected.

Examples of unsuitable habitat include:

- Individual trees that are greater than 1,000 feet from forested or wooded areas;
- Trees found in highly-developed urban areas (e.g., street trees, downtown areas);
- A pure stand of less than 3-inch dbh trees that are not mixed with larger trees; and
- A stand of eastern red cedar shrubby vegetation with no potential roost trees.

Using the IPaC Official Species List to Make No Effect and May Affect Determinations for Listed Species

1. If IPaC returns a result of “There are no listed species found within the vicinity of the project,” then project proponents can conclude the proposed activities will have **no effect** on any federally listed species under Service jurisdiction. Concurrence from the Service is not required for **No Effect** determinations. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records. An example "No Effect" document also can be found on the S7 Technical Assistance website.

2. If IPaC returns one or more federally listed, proposed, or candidate species as potentially present in the action area of the proposed project other than bats (see #3 below) then project proponents can conclude the proposed activities **may affect** those species. For assistance in determining if suitable habitat for listed, candidate, or proposed species occurs within your project area or if species may be affected by project activities, you can obtain Life History Information for Listed and Candidate Species through the S7 Technical Assistance website.

3. If IPac returns a result that one or more federally listed bat species (Indiana bat, northern long-eared bat, or gray bat) are potentially present in the action area of the proposed project, project proponents can conclude the proposed activities **may affect** these bat species **IF** one or more of the following activities are proposed:

a. Clearing or disturbing suitable roosting habitat, as defined above, at any time of year;
b. Any activity in or near the entrance to a cave or mine;
c. Mining, deep excavation, or underground work within 0.25 miles of a cave or mine;
d. Construction of one or more wind turbines; or
e. Demolition or reconstruction of human-made structures that are known to be used by bats based on observations of roosting bats, bats emerging at dusk, or guano deposits or stains.

If none of the above activities are proposed, project proponents can conclude the proposed activities will have **no effect** on listed bat species. Concurrence from the Service is not required for **No Effect** determinations. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records. An example "No Effect" document also can be found on the S7 Technical Assistance website.

If any of the above activities are proposed in areas where one or more bat species may be present, project proponents can conclude the proposed activities **may affect** one or more bat species. We recommend coordinating with the Service as early as possible during project planning. If your project will involve removal of over 5 acres of suitable forest or woodland habitat, we recommend you complete a Summer Habitat Assessment prior to contacting our office to expedite the consultation process. The Summer Habitat Assessment Form is available in Appendix A of the most recent version of the Range-wide Indiana Bat Summer Survey Guidelines.

Other Trust Resources and Activities

Bald and Golden Eagles - Although the bald eagle has been removed from the endangered species list, this species and the golden eagle are protected by the Bald and Golden Eagle Act and the Migratory Bird Treaty Act. Should bald or golden eagles occur within or near the project area please contact our office for further coordination. For communication and wind energy projects, please refer to additional guidelines below.

Migratory Birds - The Migratory Bird Treaty Act (MBTA) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Service. The Service has the responsibility under the MBTA to proactively prevent the mortality of migratory birds whenever possible and we encourage implementation of recommendations that minimize potential impacts to migratory birds. Such measures include clearing forested habitat outside the nesting season (generally March 1 to August 31) or conducting nest surveys prior to clearing to avoid injury to eggs or nestlings.

Communication Towers - Construction of new communications towers (including radio, television, cellular, and microwave) creates a potentially significant impact on migratory birds, especially some 350 species of night-migrating birds. However, the Service has developed voluntary guidelines for minimizing impacts.

Transmission Lines - Migratory birds, especially large species with long wingspans, heavy bodies, and poor maneuverability can also collide with power lines. In addition, mortality can occur when birds, particularly hawks, eagles, kites, falcons, and owls, attempt to perch on uninsulated or unguarded power poles. To minimize these risks, please refer to guidelines developed by the Avian Power Line Interaction Committee and the Service. Implementation of these measures is especially important along sections of lines adjacent to wetlands or other areas that support large numbers of raptors and migratory birds.

Wind Energy - To minimize impacts to migratory birds and bats, wind energy projects should follow the Service's Wind Energy Guidelines. In addition, please refer to the Service's Eagle Conservation Plan Guidance, which provides guidance for conserving bald and golden eagles in the course of siting, constructing, and operating wind energy facilities.

Next Steps

Should you determine that project activities **may affect** any federally listed species or trust resources described herein, please contact our office for further coordination. Letters with requests for consultation or correspondence about your project should include the Consultation Tracking Number in the header. Electronic submission is preferred.

If you have not already done so, please contact the Missouri Department of Conservation (Policy Coordination, P. O. Box 180, Jefferson City, MO 65102) for information concerning Missouri Natural Communities and Species of Conservation Concern.

We appreciate your concern for threatened and endangered species. Please feel free to contact our office with questions or for additional information.

Karen Herrington

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Missouri Ecological Services Field Office
101 Park Deville Drive
Suite A
Columbia, MO 65203-0057
(573) 234-2132

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following offices, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

Kansas Ecological Services Field Office
2609 Anderson Avenue
Manhattan, KS 66502-2801
(785) 539-3474

Nebraska Ecological Services Field Office
9325 B South Alda Rd., Ste B
Wood River, NE 68883-9565
(308) 382-6468

Project Summary

Consultation Code: 03E14000-2021-SLI-0143

Event Code: 03E14000-2021-E-00382

Project Name: Kansas River Watershed Study - Kansas River Sub Basin

Project Type: ** OTHER **

Project Description: The Watershed Study will investigate water resource issues and opportunities in the Kansas River Basin to recommend comprehensive, long-term solutions based on a Shared Vision for the basin. These long-term solutions may include recommendations for potential involvement by the USACE, other federal agencies, or non-federal interests. The Watershed Study will integrate water and related land resource management considerations, seeking sustainable water resources management and taking into account various additional considerations. Ultimately, the Watershed Study should inform multiple stakeholders and decision makers at all levels of government and provide a strategic roadmap to inform future investment decisions by multiple agencies. Significant need and opportunities exist in the areas of sediment management, flood risk management, water supply availability and sustainment, ecosystem restoration, navigation, and recreation. This integrated Watershed Study will focus attention on multiple objectives and tradeoffs, provide better accounting for uncertainty, and accommodate the concepts of adaptive management, stakeholder collaboration, and systems analysis for watershed-scale planning and evaluation.
The Watershed Study will build from the extensive research, planning, outreach and documentation in the Kansas Water Plan (2014) and Vision for the Future of Water Supply in Kansas (2015)(Vision). The State of Kansas uses the Kansas Water Plan as a primary tool to address current water resource issues for future needs. The Kansas Water Office (KWO), in coordination with local, state, federal and interstate partners, updates the Kansas Water Plan every 5 years. Water resource issues addressed in the Kansas Water Plan extend beyond water supply and include goals and priorities, such as improving the state’s water quality and improving recreational opportunities available to citizens. The Vision, currently in update, guides the Kansas Water Plan, which provides 5-year milestone events to measure Vision success. Revisions to the Vision will be used to develop this Watershed Study as necessary.

This is one of 3 sub basins that will have individual IPAC Reports conducted due to file size.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/39.96181348328375N97.04300428963413W

Counties: Atchison, KS | Brown, KS | Clay, KS | Douglas, KS | Geary, KS | Jackson, KS | Jefferson, KS | Johnson, KS | Leavenworth, KS | Marshall, KS | Morris, KS | Nemaha, KS | Osage, KS | Pottawatomie, KS | Republic, KS | Riley, KS | Shawnee, KS | Wabaunsee, KS | Washington, KS | Wyandotte, KS | Jackson, MO | Adams, NE | Butler, NE | Clay, NE | Fillmore, NE | Franklin, NE | Gage, NE | Hall, NE | Hamilton, NE | Jefferson, NE | Kearney, NE | Lancaster, NE | Merrick, NE | Nuckolls, NE | Pawnee, NE | Polk, NE | Saline, NE | Seward, NE | Thayer, NE | Webster, NE | York, NE

Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Gray Bat *Myotis grisescens* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6329	Endangered
Indiana Bat *Myotis sodalis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER POND

- PUBGh

RIVERINE

- R4SBC
- R5UBH

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, KANSAS CITY DISTRICT
635 FEDERAL BLDG
601 E 12TH STREET
KANSAS CITY, MISSOURI 64106-2824

Planning Branch

Scott Larson
Nebraska Field Supervisor
U.S. Fish and Wildlife Service, Nebraska Field Office
9325 South Alda Road
Wood River, NE 68883

Dear Mr. Larson:

The Kansas City District, U.S. Army Corps of Engineers (USACE), Kansas Water Office (KWO), and Kansas Department of Wildlife, Parks and Tourism (KDWPT) are conducting the Kansas River Reservoirs Flood and Sediment Study (Watershed Study). The study area includes the Kansas River Basin in parts of Kansas, Nebraska, Missouri, and Colorado (Figure 1). The Watershed Study is authorized by the Resolution of the Senate Committee on Environment and Public Works, Kansas River and Tributaries, May 23, 2006 and Section 729 of the Water Resources Development Act (WRDA) of 1986, as amended (33 U.S.C. § 2267a). Section 729 and other specifically authorized watershed authorities allow USACE to study the water resources needs of river basins and regions of the United States.

The Watershed Study will investigate water and related land resource issues and opportunities in the Kansas River Basin to recommend comprehensive, long-term, and sustainable water resource solutions and management based on a Shared Vision for the basin. These long- term solutions may include recommendations for potential involvement by the USACE, other federal agencies, or non-federal interests. Ultimately, the Watershed Study should inform stakeholders and decision makers at all levels of government and provide a strategic roadmap to inform future investment decisions by multiple agencies. Watershed studies are completed in a single phase and include three milestones: Shared Vision, Recommendations, and Final Report. The Watershed Study is currently in the Shared Vision milestone phase of the study, which will identify problems and opportunities, inventory baseline conditions and project future conditions, and identify measures and strategies to address problems.

Significant need and opportunities exist in the areas of sediment management, flood risk management, water supply availability and sustainment, ecosystem restoration, water quality, and recreation. This Watershed Study will focus attention on multiple objectives and tradeoffs, provide better accounting for uncertainty, and accommodate the concepts of adaptive management, stakeholder collaboration, and systems analysis for watershed-scale planning and evaluation.

Watershed studies are not project implementation documents. The level of detail is adequate for conducting watershed-level resource assessments and making

recommendations. If specific projects are identified for potential implementation under existing USACE authorities (for example, flood damage reduction or ecosystem restoration), separate studies could be conducted to describe specific project features and include detailed engineering and National Environmental Policy Act (NEPA) documentation.

This letter is to inform the United States Fish and Wildlife Service (USFWS) of the Watershed Study. As described above, the Watershed study could recommend potential future studies that may require coordination under the Fish and Wildlife Coordination Act (FWCA) and Section 7 consultation. In addition, if there are any USFWS watershed level efforts (projects/studies), properties, or concerns that should be considered by the planning team, the USACE would appreciate any available information. As part of the scope of work the USACE is conducting extensive public outreach and stakeholder coordination. If your agency would like to participate in stakeholder coordination meetings please let us know.

The USACE conducted an initial assessment of the proposed study area and review of the USFWS Information, Planning, and Conservation System (IPAC) completed on 23 October 2020 (Attachment). Due to the large study area the IPAC was completed for 3 sub basins, the Kansas River sub basin, Republican River sub basin, and the Smoky Hill River sub basin. The study's location is within the jurisdiction of multiple USFWS field offices. Species lists and critical habitats that fall within each field office jurisdiction were provided. Within the jurisdiction of the Nebraska Field Office the USACE identified seven federally listed species: Least Tern, Piping Plover, Whooping Crane, Pallid Sturgeon, Northern Long-eared Bat, Salt Creek Tiger Beetle, and Western Prairie Fringed Orchid; and 25 species of migratory birds within the Kansas River sub basin. Within the Republican River sub basin the USACE identified eight federally listed species: Least Tern, Piping Plover, Whooping Crane, Pallid Sturgeon, Northern Long-eared Bat, American Burying Beetle, Blowout Penstemon, and Western Prairie Fringed Orchid; and 17 species of migratory birds. Within the Smoky Hill River sub basin the USACE identified two federally listed species: Whooping Crane and Northern Long-eared Bat; and 0 species of migratory birds. To assist with our planning efforts please provide additional information regarding these or any other federally listed species, candidate species, or designated critical habitat known to be within or adjacent to the project area.

If your agency has any additional concerns, questions, or comments on the proposed study, please contact the project manager, Ms. Laura Totten at laura.a.totten@usace.army.mil or (816) 389-2137; or the environmental planner, Mr. Jeff Tripe at jeffry.a.tripe@usace.army.mil or 816-289-4178. As part of the Watershed Study process, we will provide a Draft Watershed Study Report for agency and public review, which outlines the goals and objectives, existing environmental conditions, project future conditions, proposed measures and strategies, and recommendations for future actions. We anticipate that the Draft Watershed Study Report will be ready for public review in the fall of 2023.

Sincerely,

Acting

Jason Farmer
Chief, Environmental Resources Section

Enclosures

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Nebraska Ecological Services Field Office
9325 B South Alda Rd., Ste B
Wood River, NE 68883-9565
Phone: (308) 382-6468 Fax: (308) 384-8835
http://www.fws.gov//nebraskaes

In Reply Refer To: October 23, 2020
Consultation Code: 06E22000-2021-SLI-0040
Event Code: 06E22000-2021-E-00052
Project Name: Kansas River Watershed Study - Kansas River Sub Basin

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- Migratory Birds
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Nebraska Ecological Services Field Office
9325 B South Alda Rd., Ste B
Wood River, NE 68883-9565
(308) 382-6468

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following offices, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

Kansas Ecological Services Field Office
2609 Anderson Avenue
Manhattan, KS 66502-2801
(785) 539-3474

Missouri Ecological Services Field Office
101 Park Deville Drive
Suite A
Columbia, MO 65203-0057
(573) 234-2132

Project Summary

Consultation Code: 06E22000-2021-SLI-0040

Event Code: 06E22000-2021-E-00052

Project Name: Kansas River Watershed Study - Kansas River Sub Basin

Project Type: ** OTHER **

Project Description: The Watershed Study will investigate water resource issues and opportunities in the Kansas River Basin to recommend comprehensive, long-term solutions based on a Shared Vision for the basin. These long-term solutions may include recommendations for potential involvement by the USACE, other federal agencies, or non-federal interests. The Watershed Study will integrate water and related land resource management considerations, seeking sustainable water resources management and taking into account various additional considerations. Ultimately, the Watershed Study should inform multiple stakeholders and decision makers at all levels of government and provide a strategic roadmap to inform future investment decisions by multiple agencies. Significant need and opportunities exist in the areas of sediment management, flood risk management, water supply availability and sustainment, ecosystem restoration, navigation, and recreation. This integrated Watershed Study will focus attention on multiple objectives and tradeoffs, provide better accounting for uncertainty, and accommodate the concepts of adaptive management, stakeholder collaboration, and systems analysis for watershed-scale planning and evaluation.
The Watershed Study will build from the extensive research, planning, outreach and documentation in the Kansas Water Plan (2014) and Vision for the Future of Water Supply in Kansas (2015)(Vision). The State of Kansas uses the Kansas Water Plan as a primary tool to address current water resource issues for future needs. The Kansas Water Office (KWO), in coordination with local, state, federal and interstate partners, updates the Kansas Water Plan every 5 years. Water resource issues addressed in the Kansas Water Plan extend beyond water supply and include goals and priorities, such as improving the state’s water quality and improving recreational opportunities available to citizens. The Vision, currently in update, guides the Kansas Water Plan, which provides 5-year milestone events to measure Vision success. Revisions to the Vision will be used to develop this Watershed Study as necessary.

This is one of 3 sub basins that will have individual IPAC Reports conducted due to file size.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/39.96181348328375N97.04300428963413W

Counties: Atchison, KS | Brown, KS | Clay, KS | Douglas, KS | Geary, KS | Jackson, KS | Jefferson, KS | Johnson, KS | Leavenworth, KS | Marshall, KS | Morris, KS | Nemaha, KS | Osage, KS | Pottawatomie, KS | Republic, KS | Riley, KS | Shawnee, KS | Wabaunsee, KS | Washington, KS | Wyandotte, KS | Jackson, MO | Adams, NE | Butler, NE | Clay, NE | Fillmore, NE | Franklin, NE | Gage, NE | Hall, NE | Hamilton, NE | Jefferson, NE | Kearney, NE | Lancaster, NE | Merrick, NE | Nuckolls, NE | Pawnee, NE | Polk, NE | Saline, NE | Seward, NE | Thayer, NE | Webster, NE | York, NE

Endangered Species Act Species

There is a total of 7 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Birds

NAME	STATUS
Least Tern *Sterna antillarum* Population: interior pop. No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8505	Endangered
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Whooping Crane *Grus americana* Population: Wherever found, except where listed as an experimental population There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/758	Endangered

Fishes

NAME	STATUS
Pallid Sturgeon *Scaphirhynchus albus*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/7162

Insects

NAME	STATUS
Salt Creek Tiger Beetle *Cicindela nevadica lincolniana*	Endangered

There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/342

Flowering Plants

NAME	STATUS
Western Prairie Fringed Orchid *Platanthera praeclara*	Threatened

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/1669

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Bittern *Botaurus lentiginosus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/6582	Breeds Apr 1 to Aug 31
American Golden-plover *Pluvialis dominica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Buff-breasted Sandpiper *Calidris subruficollis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9488	Breeds elsewhere
Dunlin *Calidris alpina arcticola* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Eastern Whip-poor-will *Antrostomus vociferus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Harris's Sparrow *Zonotrichia querula* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Henslow's Sparrow *Ammodramus henslowii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3941	Breeds May 1 to Aug 31
Hudsonian Godwit *Limosa haemastica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere

NAME	BREEDING SEASON
Lark Bunting *Calamospiza melanocorys* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 10 to Aug 15
Least Bittern *Ixobrychus exilis* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/6175	Breeds Aug 16 to Oct 31
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Ruddy Turnstone *Arenaria interpres morinella* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Semipalmated Sandpiper *Calidris pusilla* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Short-billed Dowitcher *Limnodromus griseus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Smith's Longspur *Calcarius pictus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Sprague's Pipit *Anthus spragueii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8964	Breeds elsewhere

NAME	BREEDING SEASON
Whimbrel *Numenius phaeopus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9483	Breeds elsewhere
Willet *Tringa semipalmata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ “Proper Interpretation and Use of Your Migratory Bird Report” before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

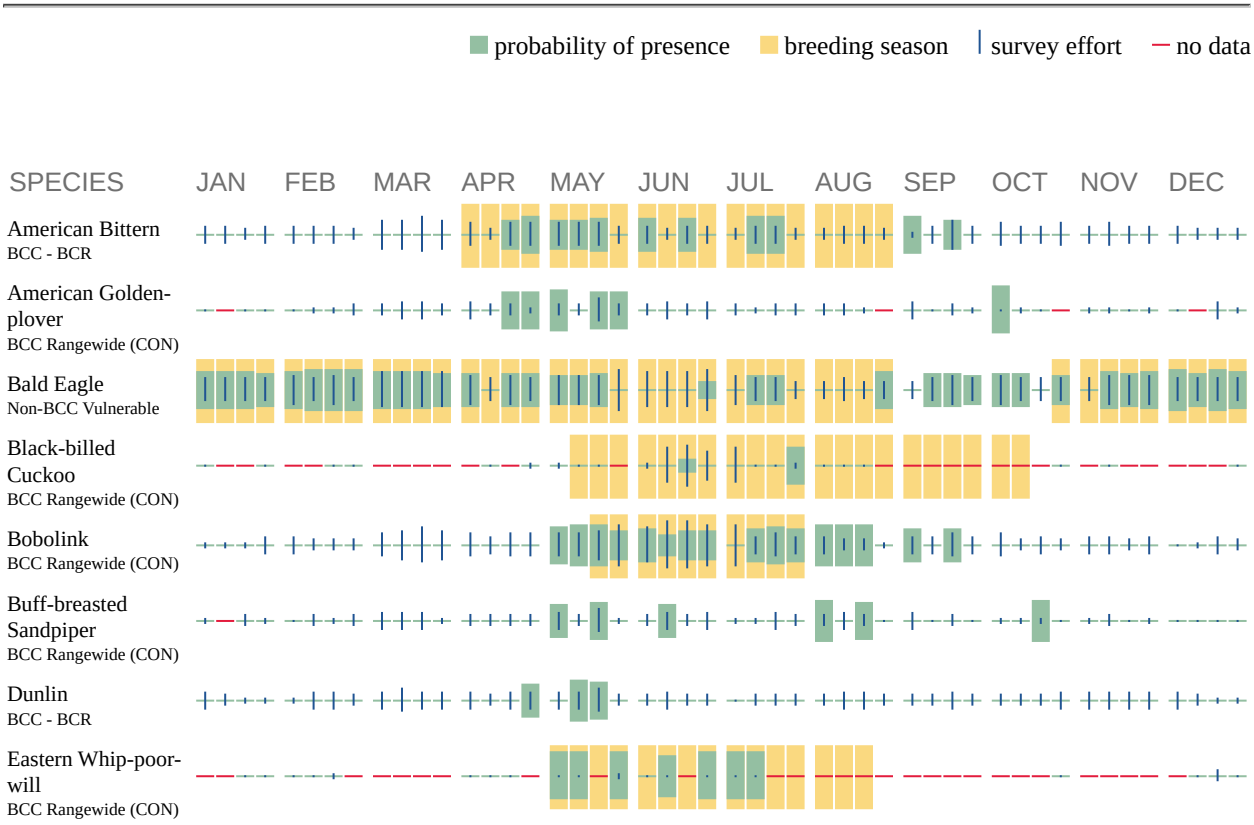
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php

- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.
Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?
The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

Due to your project's size, the list below may be incomplete, or the acreages reported may be inaccurate. For a full list, please contact the local U.S. Fish and Wildlife office or visit https://www.fws.gov/wetlands/data/mapper.HTML

FRESHWATER POND

- PAB/EM1F
- PAB/EM1Fh
- PAB/EM1Fx
- PABF
- PABFh

LAKE

- L1ABGh
- L1UBGh
- L1UBH
- L1UBHh
- L1UBHx
- L2ABFh
- L2ABFx
- L2ABGh
- L2UBFh
- L2UBFx
- L2UBGh
- L2USCh

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Nebraska Ecological Services Field Office
9325 B South Alda Rd., Ste B
Wood River, NE 68883-9565
Phone: (308) 382-6468 Fax: (308) 384-8835
http://www.fws.gov//nebraskaes

In Reply Refer To: October 23, 2020
Consultation Code: 06E22000-2021-SLI-0041
Event Code: 06E22000-2021-E-00054
Project Name: Kansas River Watershed Study - Republican River Sub Basin

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- Migratory Birds
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Nebraska Ecological Services Field Office
9325 B South Alda Rd., Ste B
Wood River, NE 68883-9565
(308) 382-6468

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following offices, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

Colorado Ecological Services Field Office
Denver Federal Center
P.O. Box 25486
Denver, CO 80225-0486
(303) 236-4773

Kansas Ecological Services Field Office
2609 Anderson Avenue
Manhattan, KS 66502-2801
(785) 539-3474

Project Summary

Consultation Code: 06E22000-2021-SLI-0041

Event Code: 06E22000-2021-E-00054

Project Name: Kansas River Watershed Study - Republican River Sub Basin

Project Type: ** OTHER **

Project Description: The Watershed Study will investigate water resource issues and opportunities in the Kansas River Basin to recommend comprehensive, long-term solutions based on a Shared Vision for the basin. These long-term solutions may include recommendations for potential involvement by the USACE, other federal agencies, or non-federal interests. The Watershed Study will integrate water and related land resource management considerations, seeking sustainable water resources management and taking into account various additional considerations. Ultimately, the Watershed Study should inform multiple stakeholders and decision makers at all levels of government and provide a strategic roadmap to inform future investment decisions by multiple agencies. Significant need and opportunities exist in the areas of sediment management, flood risk management, water supply availability and sustainment, ecosystem restoration, navigation, and recreation. This integrated Watershed Study will focus attention on multiple objectives and tradeoffs, provide better accounting for uncertainty, and accommodate the concepts of adaptive management, stakeholder collaboration, and systems analysis for watershed-scale planning and evaluation. The Watershed Study will build from the extensive research, planning, outreach and documentation in the Kansas Water Plan (2014) and Vision for the Future of Water Supply in Kansas (2015)(Vision). The State of Kansas uses the Kansas Water Plan as a primary tool to address current water resource issues for future needs. The Kansas Water Office (KWO), in coordination with local, state, federal and interstate partners, updates the Kansas Water Plan every 5 years. Water resource issues addressed in the Kansas Water Plan extend beyond water supply and include goals and priorities, such as improving the state’s water quality and improving recreational opportunities available to citizens. The Vision, currently in update, guides the Kansas Water Plan, which provides 5-year milestone events to measure Vision success. Revisions to the Vision will be used to develop this Watershed Study as necessary.

This is one of 3 sub basins that will have individual IPAC Reports conducted due to file size.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/40.033319104526925N100.5968833886262W

Counties: Cheyenne, CO | Elbert, CO | Kit Carson, CO | Lincoln, CO | Logan, CO | Phillips, CO | Sedgwick, CO | Washington, CO | Yuma, CO | Cheyenne, KS | Clay, KS | Cloud, KS | Decatur, KS | Dickinson, KS | Geary, KS | Jewell, KS | Mitchell, KS | Norton, KS | Phillips, KS | Rawlins, KS | Republic, KS | Riley, KS | Sheridan, KS | Sherman, KS | Smith, KS | Thomas, KS | Washington, KS | Chase, NE | Dundy, NE | Franklin, NE | Frontier, NE | Furnas, NE | Gosper, NE | Harlan, NE | Hayes, NE | Hitchcock, NE | Kearney, NE | Keith, NE | Lincoln, NE | Nuckolls, NE | Perkins, NE | Phelps, NE | Red Willow, NE | Thayer, NE | Webster, NE

Endangered Species Act Species

There is a total of 8 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Birds

NAME	STATUS
Least Tern *Sterna antillarum* Population: interior pop. No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8505	Endangered
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Whooping Crane *Grus americana* Population: Wherever found, except where listed as an experimental population There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/758	Endangered

Fishes

NAME	STATUS
Pallid Sturgeon *Scaphirhynchus albus*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/7162

Insects

NAME	STATUS
American Burying Beetle *Nicrophorus americanus*	Threatened

Population: Wherever found, except where listed as an experimental population
No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/66

Flowering Plants

NAME	STATUS
Blowout Penstemon *Penstemon haydenii*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/6172

Western Prairie Fringed Orchid *Platanthera praeclara*	Threatened

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/1669

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Golden-plover *Pluvialis dominica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Jul 31

NAME	BREEDING SEASON
Burrowing Owl *Athene cunicularia* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9737	Breeds Mar 15 to Aug 31
Cassin's Sparrow *Aimophila cassinii* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9512	Breeds Aug 1 to Oct 10
Chestnut-collared Longspur *Calcarius ornatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 10
Golden Eagle *Aquila chrysaetos* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Harris's Sparrow *Zonotrichia querula* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Lark Bunting *Calamospiza melanocorys* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 10 to Aug 15
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Long-billed Curlew *Numenius americanus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5511	Breeds Apr 1 to Jul 31
Mccown's Longspur *Calcarius mccownii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9292	Breeds May 1 to Aug 15
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10

NAME	BREEDING SEASON
Semipalmated Sandpiper *Calidris pusilla* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Sprague's Pipit *Anthus spragueii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8964	Breeds elsewhere
Whimbrel *Numenius phaeopus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9483	Breeds elsewhere
Willet *Tringa semipalmata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5
Willow Flycatcher *Empidonax traillii* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/3482	Breeds May 20 to Aug 31

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ “Proper Interpretation and Use of Your Migratory Bird Report” before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

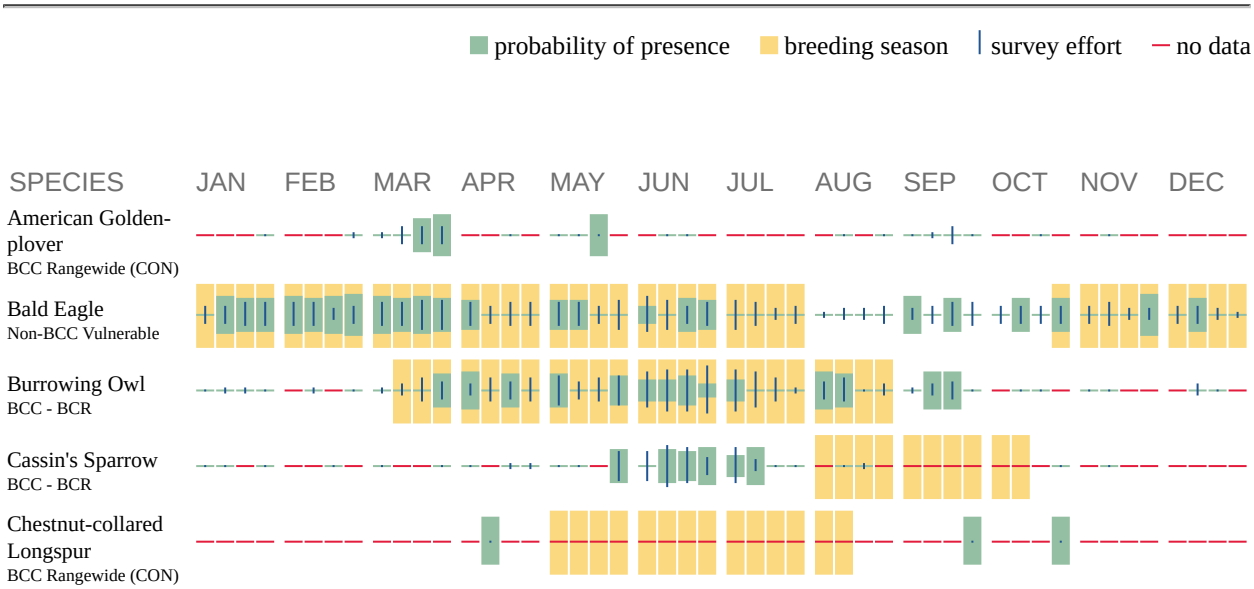
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.
Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very

helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?
The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In

contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

Due to your project's size, the list below may be incomplete, or the acreages reported may be inaccurate. For a full list, please contact the local U.S. Fish and Wildlife office or visit https://www.fws.gov/wetlands/data/mapper.HTML

FRESHWATER POND

- PAB/EM1F
- PAB/EM1Fh
- PABF
- PABFd
- PABFh

LAKE

- L1UBGh
- L1UBHh
- L1UBHx
- L2ABFh
- L2ABGh
- L2UBFh
- L2UBGh
- L2USAh
- L2USCh

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Nebraska Ecological Services Field Office
9325 B South Alda Rd., Ste B
Wood River, NE 68883-9565
Phone: (308) 382-6468 Fax: (308) 384-8835
http://www.fws.gov//nebraskaes

In Reply Refer To: October 23, 2020
Consultation Code: 06E22000-2021-SLI-0042
Event Code: 06E22000-2021-E-00056
Project Name: Kansas River Watershed Study - Smoky Hill Sub Basin

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- Migratory Birds
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Nebraska Ecological Services Field Office
9325 B South Alda Rd., Ste B
Wood River, NE 68883-9565
(308) 382-6468

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following offices, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

Colorado Ecological Services Field Office
Denver Federal Center
P.O. Box 25486
Denver, CO 80225-0486
(303) 236-4773

Kansas Ecological Services Field Office
2609 Anderson Avenue
Manhattan, KS 66502-2801
(785) 539-3474

Project Summary

Consultation Code: 06E22000-2021-SLI-0042

Event Code: 06E22000-2021-E-00056

Project Name: Kansas River Watershed Study - Smoky Hill Sub Basin

Project Type: ** OTHER **

Project Description: The Watershed Study will investigate water resource issues and opportunities in the Kansas River Basin to recommend comprehensive, long-term solutions based on a Shared Vision for the basin. These long-term solutions may include recommendations for potential involvement by the USACE, other federal agencies, or non-federal interests. The Watershed Study will integrate water and related land resource management considerations, seeking sustainable water resources management and taking into account various additional considerations. Ultimately, the Watershed Study should inform multiple stakeholders and decision makers at all levels of government and provide a strategic roadmap to inform future investment decisions by multiple agencies. Significant need and opportunities exist in the areas of sediment management, flood risk management, water supply availability and sustainment, ecosystem restoration, navigation, and recreation. This integrated Watershed Study will focus attention on multiple objectives and tradeoffs, provide better accounting for uncertainty, and accommodate the concepts of adaptive management, stakeholder collaboration, and systems analysis for watershed-scale planning and evaluation. The Watershed Study will build from the extensive research, planning, outreach and documentation in the Kansas Water Plan (2014) and Vision for the Future of Water Supply in Kansas (2015)(Vision). The State of Kansas uses the Kansas Water Plan as a primary tool to address current water resource issues for future needs. The Kansas Water Office (KWO), in coordination with local, state, federal and interstate partners, updates the Kansas Water Plan every 5 years. Water resource issues addressed in the Kansas Water Plan extend beyond water supply and include goals and priorities, such as improving the state’s water quality and improving recreational opportunities available to citizens. The Vision, currently in update, guides the Kansas Water Plan, which provides 5-year milestone events to measure Vision success. Revisions to the Vision will be used to develop this Watershed Study as necessary.

This is one of 3 sub basins that will have individual IPAC Reports conducted due to file size.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/39.19261552666521N99.68024455206864W

Counties: Cheyenne, CO | Kit Carson, CO | Barton, KS | Clay, KS | Cloud, KS | Decatur, KS | Dickinson, KS | Ellis, KS | Ellsworth, KS | Geary, KS | Gove, KS | Graham, KS | Greeley, KS | Jewell, KS | Lane, KS | Lincoln, KS | Logan, KS | Marion, KS | McPherson, KS | Mitchell, KS | Morris, KS | Ness, KS | Norton, KS | Osborne, KS | Ottawa, KS | Phillips, KS | Rice, KS | Rooks, KS | Rush, KS | Russell, KS | Saline, KS | Scott, KS | Sheridan, KS | Sherman, KS | Smith, KS | Thomas, KS | Trego, KS | Wallace, KS | Wichita, KS | Franklin, NE

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Birds

NAME	STATUS
Whooping Crane *Grus americana* Population: Wherever found, except where listed as an experimental population There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/758	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

THERE ARE NO FWS MIGRATORY BIRDS OF CONCERN WITHIN THE VICINITY OF YOUR PROJECT AREA.

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.
Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

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2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
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Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

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Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER POND

- PUBFx

RIVERINE

- R4SBC

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, KANSAS CITY DISTRICT
635 FEDERAL BUILDING
601 E 12TH STREET
KANSAS CITY MO 64106-2824

Planning Branch

Dr. Jill Dolberg
Deputy State Historic Preservation Officer
1500 R Street
Lincoln, Nebraska 68508-1651

SUBJECT: Kansas River Basin Watershed Study, Kansas, Nebraska, and Colorado

Dear Dr. Dolberg:

The U.S. Corps of Engineers, Kansas City District (Corps) is planning a watershed study of the entire Kansas River Basin in parts of Kansas, Colorado, and Nebraska (Figure 1). We are working with our partners to consider the entire watershed as an integrated system when planning projects to help solve water resource problems in a holistic and sustainable manner rather than in a piecemeal approach. Integrated watershed approaches, such as this one, cross diverse political, geographic, physical, institutional, technical, and stakeholder considerations to address significant identifiable watershed problems and will reflect a shared vision.

Public involvement, collaboration, and consultation with Federal, Tribal, state, interstate, and local government entities are a keystone of the USACE watershed approach and are essential to the success of watershed planning. At this time, we are initiating consultation with your office to identify and investigate the problems, needs, and opportunities of the Kansas River watershed, which may include but are not limited to: flood risk management, environmental restoration, water quality, water supply, drought preparedness, recreation, and navigation.

Specific projects with known project areas are anticipated products of this watershed study and have yet to be identified. As they develop, the Section 106 process will be followed and the appropriate federally recognized Tribe(s) and State Historic Preservation Office(s) will be consulted.

Thank you for your consideration in this matter. If you have any questions or have need of further information please contact Gina Powell, USACE Kansas City Archeologist, at Gina.S.Powell@usace.army.mil or at (816) 389-2320.

Sincerely,

Dr. Gina Powell
Archeologist

Enclosure

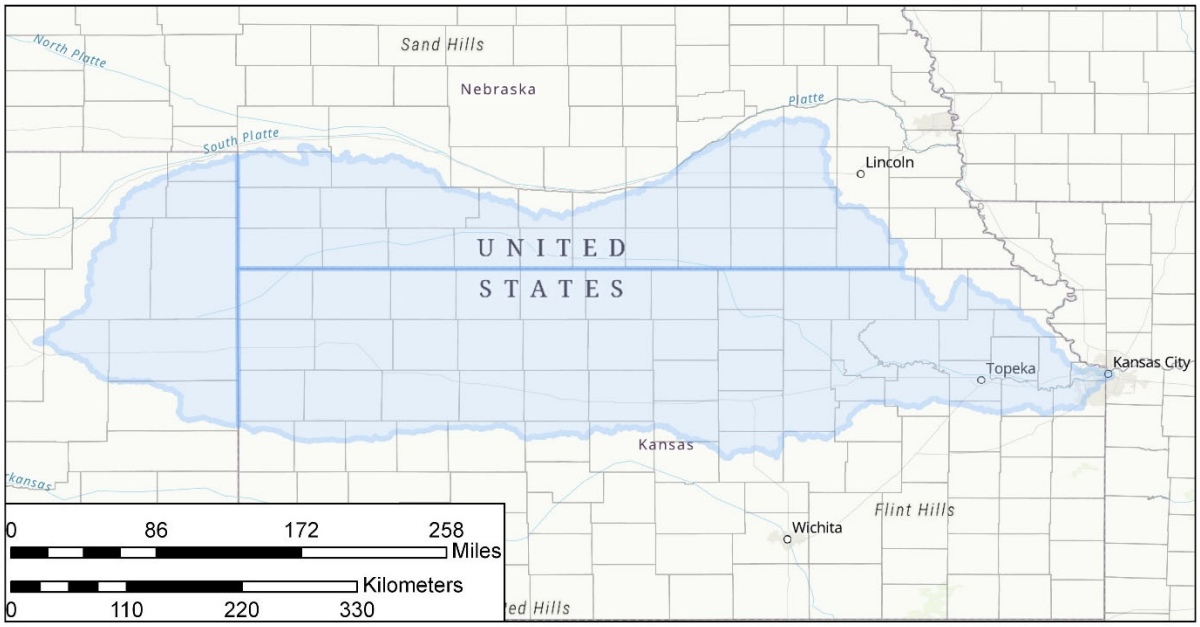


Figure 1. Kansas River Basin in Kansas, Colorado, and Nebraska.

AGENCY COORDINATION RESPONSE LETTERS

Cultural Resources Division
State Historic Preservation Office
6425 SW 6th Avenue
Topeka KS 66615-1099

Kansas Historical Society

785-272-8681, ext. 240
kshs.shpo@ks.gov
kshs.org

Jennie Chinn, Executive Director

Laura Kelly, Governor

KSR&C No. 20-01-056
January 28, 2020

Gina Powell
U.S. Army Corps of Engineers
Via E-Mail

RE: Watershed Study
Kansas River Basin
Statewide

Dear Dr. Powell:

The Kansas State Historic Preservation Office acknowledges your notification dated January 10, 2020 regarding a planned watershed study of the entire Kansas River Basin in parts of Kansas, Colorado, and Nebraska. It is our understanding that specific projects related to the study have not yet been identified. Once projects have been identified, our office stands ready to participate through the Section 106 process with the U.S. Army Corps of Engineers acting as the lead federal agency.

If you have questions or need additional information regarding these comments, please contact Lauren Jones at 785-272-8681 (ext. 225) or via email at Lauren.Jones@ks.gov or Tim Weston at 785-272-8681 (ext. 214) or via email at Tim.Weston@ks,gov. Please refer to the Kansas Review & Compliance number (KSR&C#) above on all future correspondence relating to this project.

Sincerely,

Jennie Chinn
Executive Director and
State Historic Preservation Officer

Patrick Zollner
Deputy State Historic Preservation Officer

From: Tobias - HC, Mark
To: Norton - HC, Holly
Cc: Powell, Gina S CIV USARMY CENWK (US)
Subject: [Non-DoD Source] Re: FW: Kansas River Basin Study, USACE-KC District
Date: Thursday, April 2, 2020 9:20:50 AM

Dr. Powell:

We received the subject letter on Jan 13, 2020. At that time, we noted that the activity was not an undertaking and that no response was required. If the Corps determines that future activities associated with this study meet are undertakings that have the potential to affect historic properties, pursuant to 36 CFR 800.3(a), we anticipate that additional consultation under 36 CFR part 800 will occur. Please include HC #77142 in all future S106 correspondence.

I hope my email finds you well,

Mark Tobias
Intergovernmental Services Manager
History Colorado | Office of Archaeology and Historic Preservation
303/866-4674 | mark.tobias@state.co.us
History Colorado Center | 1200 Broadway | Denver, Colorado 80203 |
HistoryColorado.org

On Thu, Apr 2, 2020 at 8:11 AM Norton - HC, Holly <holly.norton@state.co.us> wrote:

> Hello Gina,
> Lindsay hasn't been employed at HIstory Colorado for five months. I am forwarding your message to Mark Tobias, our Director of Intergovernmental Services.
> Cheers,l
>
> **Dr. Holly Kathryn Norton**
> **Director, Office of Archaeology and Historic Preservation**
> **State Archaeologist & Deputy State Historic Preservation Officer**
> Pronouns: she/her/hers
> History Colorado
> 303/866-2736
> 1200 Broadway|Denver, Colorado 80203|HistoryColorado.org
>
> ***For more than 140 years, our supporters have made our work possible. Become a member or make a special donation today.***
> **Please Note: Due to COVID 19 the History Colorado Center is closed to the public.**
> The Office of Archaeology and Historic Preservation (OAHP) staff is teleworking. Essential functions will continue, including Tax Credit project review, Section 106, National Register nominations, and permit applications. These functions may be delayed or impacted as conditions in Colorado evolve.
>
> 
>
>

United States Department of Agriculture

USDA NRCS
Natural Resources Conservation Service
Nebraska State Office
Federal Building, Room 152
100 Centennial Mall North
Lincoln, NE 68508-3866
(402) 437-5300 http://www.ne.nrcs.usda.gov

December 16, 2020

Jennifer Switzer
Chief, Planning Branch
U.S. Army Corps of Engineers, Kansas City District
601 E. 12th Street
635 Federal Building
Kansas City, MO 64106-2824

Ms. Switzer:

The United States Department of Agriculture (USDA) – Natural Resources Conservation Service (NRCS), Nebraska State Office has received your letter of December 10th, 2020, related to the Kansas River Reservoirs Flood and Sediment Study (Watershed Study). Based upon the watershed map attached to the aforementioned letter, your study area will encompass the Republican River and Blue River Watersheds of Nebraska.

NRCS appreciates and accepts your invitation to participate in future Watershed Stakeholder coordination meetings.

The USDA NRCS works closely with both private landowners and the Nebraska Natural Resources Districts (NRDs) to promote and assist with the implementation of conservation measures and projects. As it pertains to the broad scale resource concerns within the Republican and Blue Watersheds, NRCS has and continues to provide both technical and programmatic assistance for resource concerns related to, but not limited to erosion control, water quality, water quantity, and flood protection.

The USDA NRCS Nebraska State Office points of contact for your watershed study will be Allen Gehring, State Conservation Engineer, at allen.gehring@usda.gov or 402.437.4037 and Neil Dominy, Assistant State Conservationist for Partnerships & Initiatives, at neil.dominy@usda.gov or 402.437.4113.

Sincerely,

CRAIG DERICKSON
State Conservationist

cc:
Laura Totten, USACE – Project Manager, Kansas City, MO
Allen Gehring, NRCS State Conservation Engineer, Lincoln State Office
Neil Dominy, NRCS Asst. State Conservationist for Partnerships, Lincoln State Office
Britt Weiser, NRCS State Resource Conservations, Lincoln State Office
Richard Vaughn, NRCS Watersheds Planning Coordinator, Lincoln State Office

From:	Herrington, Karen
To:	Totten, Laura A CIV USARMY CENWK (USA)
Cc:	Tripe, Jeffry A CIV USARMY CENWK (USA); Snyder, Michael V CIV USARMY CENWK (USA); Luginbill, Jason S; Weber, John S
Subject:	[Non-DoD Source] Re: [EXTERNAL] RE: Kansas River Reservoirs Flood and Sediment Study
Date:	Thursday, December 3, 2020 3:00:18 PM

Hello Laura,

Given the very small portion of Missouri near the Kansas City area that will be covered by this study, our office defers to the Kansas Ecological Services Field office. We also do not anticipate any effects to listed bat species in Missouri. It sounds like an exciting study - best of luck!

_____

Karen Herrington
Field Supervisor
Missouri Ecological Services Field Office
U.S. Fish and Wildlife Service
office: 573-234-5031
cell: 573-356-1721
Work Schedule: Mon 12-5 PM; Tues 2-5 PM; Wed 8 AM-12 PM & 2-5 PM; Thurs 2-5 PM; Fri 2-4 PM

_____

From: Totten, Laura A CIV USARMY CENWK (USA) <Laura.A.Totten@usace.army.mil>
Sent: Thursday, December 3, 2020 1:26 PM
To: Herrington, Karen <karen_herrington@fws.gov>
Cc: Tripe, Jeffry A CIV USARMY CENWK (USA) <Jeffry.A.Tripe@usace.army.mil>; Snyder, Michael V CIV USARMY CENWK (USA) <Michael.V.Snyder@usace.army.mil>
Subject: [EXTERNAL] RE: Kansas River Reservoirs Flood and Sediment Study

Karen Herrington
Missouri Field Supervisor
U.S. Fish and Wildlife Service, Missouri Field Office
101 Park DeVille Drive, Suite A
Columbia, MO 65203-0057

Dear Ms. Herrington:

The Kansas City District, U.S. Army Corps of Engineers (USACE), Kansas Water Office (KWO), and

Kansas Department of Wildlife, Parks and Tourism (KDWPT) are conducting the Kansas River Reservoirs Flood and Sediment Study (Watershed Study). The study area includes the Kansas River Basin in parts of Kansas, Nebraska, and Colorado. The Watershed Study is authorized by the Resolution of the Senate Committee on Environment and Public Works, Kansas River and Tributaries, May 23, 2006 and Section 729 of the Water Resources Development Act (WRDA) of 1986, as amended (33 U.S.C. § 2267a). Section 729 and other specifically authorized watershed authorities allow USACE to study the water resources needs of river basins and regions of the United States.

Attached is a letter is to inform the United States Fish and Wildlife Service (USFWS) of the Watershed Study. The Watershed Study could recommend potential future studies that may require coordination under the Fish and Wildlife Coordination Act (FWCA) and Section 7 consultation. In addition, if there are any USFWS watershed level efforts (projects/studies), properties, or concerns that should be considered by the planning team, the USACE would appreciate any available information. As part of the scope of work the USACE is conducting extensive public outreach and stakeholder coordination. If your agency would like to participate in stakeholder coordination meetings please let us know.

If your agency has any concerns, questions, or comments on the proposed study, please contact the project manager, Ms. Laura Totten at laura.a.totten@usace.army.mil or (816) 389-2137; or the environmental planner, Mr. Jeff Tripe at jeffry.a.tripe@usace.army.mil or 816-289-4178.

Sincerely,

Laura A Totten
PM/Planner
Kansas City District, US Army Corps of Engineers
601 E 12th Street
Kansas City, MO 64106
Phone: 816-389-2137
Fax: 816-389-2025

TRIBAL COORDINATION

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, KANSAS CITY DISTRICT
635 FEDERAL BUILDING
601 E 12TH STREET
KANSAS CITY MO 64106-2824

REPLY TO ATTENTION OF

Planning Branch

Insert Recipient

SUBJECT: Kansas River Reservoirs Flood and Sediment Study, Kansas, Nebraska, and Colorado

Dear X:

The U.S. Corps of Engineers, Kansas City District (Corps) is conducting the Kansas River Reservoirs Flood and Sediment Study, a watershed study, of the entire Kansas River Basin in parts of Kansas, Colorado, and Nebraska (Figure Attached). We are working with our partners, including Tribal partners, to consider the entire watershed as an integrated system when planning projects to help solve water resource problems in a holistic and sustainable manner rather than in a piecemeal approach. Integrated watershed approaches, such as this one, cross diverse political, geographic, physical, institutional, technical, and stakeholder considerations to address significant identifiable watershed problems and will reflect a shared vision.

Public involvement, collaboration, and consultation with Federal, Tribal, state, interstate, and local government entities are a keystone of the USACE watershed approach and are essential to the success of watershed planning. At this time, we are initiating consultation with your Tribe to identify and investigate the problems, needs, and opportunities of the Kansas River watershed, which may include but are not limited to: flood risk management, sediment management, reservoir operations, water supply availability and sustainment, infrastructure investment, environmental preservation and restoration, water quality, drought preparedness, and recreation.

Outcomes of the study will include recommendations for actions to address identified issues and problems within the Kansas River Basin and a strategic roadmap that identifies the sequencing of priorities. Recommendations can include suggested strategies, policies (new policies, or revisions to existing policies), programs for state or local agencies and multi-agency partnerships, or federal and non-federal programs or projects (subject to specific authorities, analysis, or decision making processes). The study will conclude with the development of a Watershed Study Report that will present the finding and recommendations for future efforts, including potential future projects and studies both near-term and long-term. As recommendations are developed, the Section 106 process will be followed and the appropriate federally recognized Tribe(s) when will be consulted.

Please contact me at (816) 389-2320 or Gina.S.Powell@usace.army.mil if you have any questions on need additional information. We respectfully request that you provide any input or information your Tribal Government may have by January 6, 2020.

Sincerely,

Dr. Gina Powell
Archeologist

Enclosure

Ms. Crystal Lightfoot
Cultural Program Director
Apache Tribe of Oklahoma
P.O. Box 1330
Anadarko, OK 73005

Mr. Max Bear
Tribal Historic Preservation Officer
Cheyenne & Arapaho Tribes of Oklahoma
200 Wolf Robe Circle
P.O. Box 145
Concho, OK 73022

Mr. Steven Vance
Tribal Historic Preservation Officer
CRST Preservation Office
PO Box 590
Eagle Butte, SD 57625

Ms. Martina Callahan
Tribal Historic Preservation Officer
Comanche Nation
PO Box 908
Lawton, OK 73502

Ms. Merle Marks
Tribal Historic Preservation Officer
Crow Creek Sioux Tribe
PO Box 50
Fort Thompson, SD 57339-0050

Ms. Erin Thompson
Historic Preservation/106 Director
Delaware Nation
P.O. Box 825
Anadarko, OK 73005

Dr. Brice Obermeyer
Tribal Historic Preservation Officer
Roosevelt Hall, Rm 212,
1200 Commercial Street
Emporia, KS 66801

Mr. Garrie Kills A Hundred
Tribal Historic Preservation Officer
Flandreau Santee Sioux Tribe
PO Box 283
Flandreau, SD 57028-0283

Mr. Leland Michael Darrow
Tribal Historian
Fort Sill Apache Tribe
43187 US Hwy 281
Apache, OK 73006

Mr. Lance Foster
Tribal Historic Preservation Officer
Iowa Tribe of Kansas
3345 B Thrasher Rd.
White Cloud, Kansas 66094

Ms. Teanna Limpy
Tribal Historic Preservation Officer
Northern Cheyenne Tribe
P.O. Box 128
Lame Deer, MT 59043

Mr. Thomas Brings
Tribal Historic Preservation Officer
Oglala Sioux Tribe
PO Box 2070
Pine Ridge, SD 57770-2070

Mr. Thomas Parker
Tribal Historic Preservation Officer
PO Box 368
Macy, NE 68039

Dr. Andrea Hunter
Tribal Historic Preservation Officer
The Osage Nation
P.O. Box 779
Pawhuska, OK 74056

Dr. Jeffrey Blythe
Tribal Historic Preservation Officer
Jicarilla Apache Nation
P.O. Box 1367
Dulce, NM 87528-0507

Ms. Crystal Douglas
Kaw Nation
Drawer 50
Kaw City, Oklahoma 74641

Honorable Chairman Lester Randall
Kickapoo Tribe of Kansas
1107 Goldfinch Road
Horton, Kansas 66439

Ms. Kellie Lewis
Acting Tribal Historic Preservation Officer
Kiowa Tribe of Oklahoma
P.O. Box 369
Carnegie, OK 73015

Ms. Holly Houghten
Tribal Historic Preservation Officer
Mescalero Apache Tribe
P.O. Box 227
Mescalero, NM 88340

Ms. Diane Hunter
Tribal Historic Preservation Officer
Miami Tribe of Oklahoma
10901 Trentman Road
Fort Wayne, IN 46816

Ms. Elsie Whitehorn
Tribal Historic Preservation Officer
Otoe-Missouria Tribe
8151 Hwy 177
Red Rock, OK 74651

Mr. Matt Reed
Tribal Historic Preservation Officer
Pawnee Nation of Oklahoma
PO Box 470
Pawnee, OK 74058

Mr. Nicholas Mauro
Tribal Historic Preservation Officer
PO Box 288
Niobrara, NE 68760

Ms. Staci Hesler
Tribal Historic Preservation Officer
Ponca Tribe of Oklahoma
20 White Eagle Drive
Ponca City, Oklahoma 74601

Honorable Joseph Rupnick, Chairman
Prairie Band Potawatomi Nation
16281 Q Road
Mayetta, Kansas 66509

Mr. Ben Rhodd
Tribal Historic Preservation Officer
Rosebud Sioux Tribe
P.O. Box 430
Rosebud, South Dakota 57570-0430

Honorable Tiauna Carnes, Chairperson
Sac and Fox Nation of Missouri in Kansas and Nebraska
305 North Main Street
Reserve, Kansas 66434

Mr. Duane Whipple
Tribal Historic Preservation Officer
Santee Sioux Nation
425 Frazier Ave. N. #2
Niobrara, NE 68760

Mr. Gary McAdams
Tribal Historic Preservation Officer
Wichita and Affiliated Tribes
P.O. Box 7
Anadarko, OK 73005

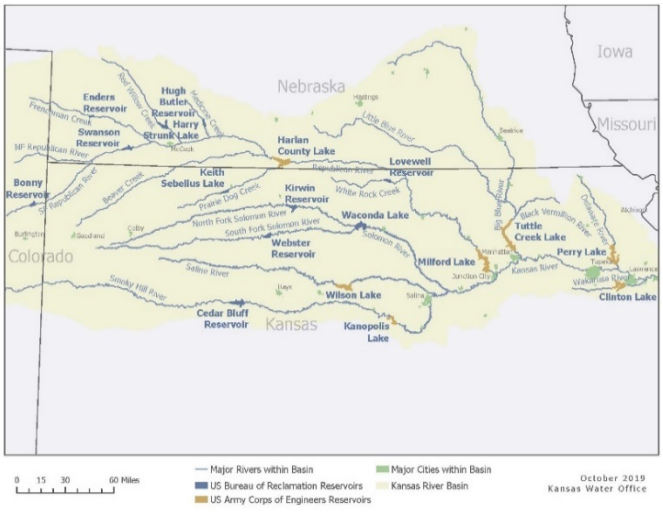
Ms. Sheri Clemons
Tribal Historic Preservation Officer
Wyandotte Nation
64700 E. Highway 60
Wyandotte, OK 74370

Mr. Kip Spotted Eagle
Tribal Historic Preservation Officer
Yankton Sioux Tribe
Box 1153 / 800 Main Avenue SW
Wagner, SD 57380

US Army Corps of Engineers ®
Kansas City District

Kansas River Basin Comprehensive Study

Authority: Section 729 of WRDA 1986
Local Sponsor: Kansas Water Office
(75 percent federal, 25 percent non-federal)



Kansas River Basin Area of Study

Location & Description: The Kansas River Basin drains approximately 60,000 square miles in Kansas, Nebraska, and Colorado, much of it in arid or semi-arid regions. There are 18 federal reservoirs in the basin – seven Corps of Engineers and eleven Bureau of Reclamation reservoirs. The reservoirs are operated by the Corps and the Bureau for multiple purposes. The Corps manages all of the federal reservoirs for flood-control operations.

Problem & Need: Systemic degradation and erosion upstream and downstream of lakes is increasing the impacts to infrastructure and habitat. Sediment is filling critical flood control and water supply storage within the reservoirs and is threating flood control gates and facilities at the lakes. Flood protection in the basin is challenged by increasing rainfall frequency, compounded by aging infrastructure, and the need to improve an outdated operational plan for the current and future challenges. Wetland, riparian, and aquatic degradation and associated impacts to habitat and water quality have been identified in numerous watersheds and tributary streams. Water quality impacts combined with sediment are resulting in dangerous summer algae blooms that poison the water of lakes, threaten lives, kill fish and livestock, threaten water intakes downstream, and impact recreation. Recommendations are needed to develop and implement a future plan for the basin. The plan should consider lake facility improvements, measure and reduce sediment inflow, remove sediment, update lake and system operations, and recommend project construction improvements where justified.

Issues and Other Information: The Kansas River serves as a critical drinking water supply for more than 600,000 people in addition to being used for irrigation, municipal wastewater and industrial discharges, power generation, and as a source of commercial sand and gravel. In addition to flood risk reduction benefits from the reservoirs (more than $22B in flood damages prevented in the basin since construction through 2018), there are several federal levee projects located on the banks of the Kansas River that provide flood risk reduction benefits ($2M in flood damages prevented in the basin since construction through 2018). Additionally, recreation use in the Kansas River Basin provides substantial benefits to the local, regional, and the national economy. The project involves innovative partnerships between the Corps, the state, other federal agencies, and local agencies. It will ensure the best use of science, engineering, funding, and other respective resources to enable an array of solutions for lake sustainment and system improvements in a comprehensive, multipurpose framework.

The Delaware Nation
Historic Preservation Department
31064 State Highway 281
Anadarko, OK 73005
Phone (405)247-2448

January 27, 2020

To Whom It May Concern:

The Delaware Nation Historic Preservation Department received correspondence regarding the following referenced project(s).

Project: Kansas River Basin Watershed Study, Kansas, Nebraska, and Colorado

Our office is committed to protecting tribal heritage, culture and religion with particular concern for archaeological sites potentially containing burials and associated funerary objects.

The Lenape people occupied the area indicated in your letter during and prior to European contact until their eventual removal to our present locations. According to our files, the location of the proposed project does not endanger any known cultural, or religious sites of interest to the Delaware Nation. However, there is still the potential for the discovery of unknown resources. We would like to accept your invitation for consultation.

Please note the Delaware Nation, the Delaware Tribe of Indians, and the Stockbridge Munsee Band of Mohican Indians are the only Federally Recognized Delaware/Lenape entities in the United States and consultation must be made only with designated staff of these three tribes. We appreciate your cooperation in contacting the Delaware Nation Cultural Preservation Office to conduct proper Section 106 consultation. Should you have any questions, feel free to contact our offices at 405-247-2448 ext. 1403.

Erin N. Paden

Erin Paden
Director of Historic Preservation
Delaware Nation
31064 State Highway 281
Anadarko, OK 73005
Ph. 405-247-2448 ext. 1403
epaden@delawarenation-nsn.gov

Northern Cheyenne Tribal Historic Preservation

14 E. Medicine Lodge Drive | P.O Box 128| Lame Deer, MT. 59043

Ph: (406) 477- 4838/ 4839/ 8113/ 8114

CONSULTATION REQUEST

CONSULTING AGENCY

Kansas City District

ADDRESS

635 Federal Building
601 E 12th St.

CITY/STATE/ZIP

KansasCity, MO. 64106

PHONE

(816) 389--2320

FAX

E-MAIL

Gina.S.Powell@usace.army

AGENCY CONTACT

Gina S. Powell.

PROJECT CONTACT

PROJECT TYPE	Kansas River Basin Watershed Study.
FEDERAL AGENCY	Department of the Army
STATE / COUNTY	Kansas, Nebraska, and Colorado.

CORRESPONDENCE	
DATE RECEIVED	1/14/2020
REVIEW PERIOD	30-DAY
DEADLINE	2/14/2020

DOCUMENTATION RECEIVED	
MAPS	YES
SURVEY	N/A
TRIBAL SURVEY	N/A

DETERMINATION	
FINDING	NO EFFECT
COMMENT	Your undertaking may proceed as planned

ADDITIONAL COMMENTS

Planning a study on the watershed to help solve water resource problems.

PREPARED BY:

Gary LaFranier

Teanna Limpy

Tribal Historic Preservation Officer

2/14/2020

DATE

LITTLEWOLF AND MORNING STAR- Out of Defeat and exile they led us back to Montana and won our Cheyenne Homeland that we will keep forever

CONSULTING AGENCY

Kansas City District

ADDRESS

635 Federal Building
601 E 12th St.

CITY/STATE/ZIP

KansasCity, MO.
64106

PHONE

(816) 389--2320

FAX

E-MAIL

Gina.S.Powell@usace.army

AGENCY CONTACT

Gina S. Powell.

PROJECT CONTACT

PREPARED BY:

Gary LaFranier

LITTLEW
our Cheye

OTOE-MISSOURIA
TRIBE OF INDIANS

8151 HIGHWAY 177
RED ROCK, OK 74651-0348

January 23, 2020

Ms. Gina Powell. Archeologist
Department of Army
Corps of Engineers, Kansas City District
635 Federal Building
601 E 12th Street
Kansas City, MO 64106-2824

SUBJECT: Kansas River Basin Watershed Study, Kansas, Nebraska, and Colorado

Dear Ms. Powell,

Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA), and 36 C.F.R. Part 800, the Otoe-Missouria Tribal Historic Preservation Office has received and reviewed all available information regarding to the above-mentioned project.

The Otoe-Missouria Tribal Historic Preservation Office thanks you for the opportunity to consult and our office looks forward to the participation on the development of the Kansas River Basin Watershed study.

The Otoe-Missouria Tribe has a vital interest in protecting its historic and ancestral cultural resources. The Otoe-Missouria Tribe of Oklahoma anticipates future review and commenting on the Section 106 process on the planned **Kansas River Basin Watershed Study, Kansas, Nebraska, and Colorado.**

Thank you for including the Otoe-Missouria Tribe of Oklahoma in above-mentioned project. Should you have further questions or concerns, please contact me.

Thank you,

Elsie Whitehorn

Elsie Whitehorn
Tribal Historic Preservation Officer
Otoe-Missouria Tribe
580-723-4466 ext 202
ewhitehorn@omtribe.org

From: Powell, Gina S CIV USARMY CENWK (US)
To: Totten, Laura A CIV USARMY CENWK (USA)
Subject: FW: re: Section 106, Pawnee Nation, and Kansas River Basin
Date: Tuesday, February 25, 2020 9:08:05 AM

Laura,
A note from the Pawnee

-----Original Message-----
From: Joseph Reed [mailto:jreed@pawneenation.org]
Sent: Monday, February 24, 2020 3:30 PM
To: Powell, Gina S CIV USARMY CENWK (US) <Gina.S.Powell@usace.army.mil>
Subject: [Non-DoD Source] re: Section 106, Pawnee Nation, and Kansas River Basin

Nawa,

Your letter of January 15 was mixed in the shuffle on my desk and I am just now reading of this project. Please include the Pawnee Nation on any project involving the Kansas River watershed. We look forward to working with you on this project.

Nawa iri,

Matt Reed

Historic Preservation Officer

Pawnee Nation

PO Box 470

657 Harrison Street

Pawnee, Oklahoma 74058

(918) 762-2180 ext 220

(918) 762-3662 fax

jreed@pawneenation.org

COMANCHE NATION

Department of the Army
Attn: Ms. Gina S. Powell
601 E. 12th Street
Missouri 64106-2824

April 15, 2020

Re: Kansas River Basin Watershed Study, Kansas, Nebraska, and Colorado

Dear Ms. Powell:

In response to your request, the above reference project has been reviewed by staff of this office to identify areas that may potentially contain prehistoric or historic archeological materials. The location of your project has been cross referenced with the Comanche Nation site files, where an indication of ***"No Properties"*** have been identified. (IAW 36 CFR 800.4(d)(1)).

Please contact this office at (580) 595-9960/9618) if you require additional information on this project.

This review is performed in order to identify and preserve the Comanche Nation and State cultural heritage, in conjunction with the State Historic Preservation Office.

Regards

Comanche Nation Historic Preservation Office
Theodore E. Villicana , Technician
#6 SW "D" Avenue, Suite C
Lawton, OK. 73502