Donahue, Brian T CIV USARMY CENWK (US)

From: CL <alanskoalas@yahoo.com>
Sent: Tuesday, December 13, 2016 2:30 PM
To: Donahue, Brian T CIV USARMY CENWK (US)
Subject: Re: [EXTERNAL] Public Comment on dredging expansion proposed for Kansas river

On behalf of the Sierra Club - Kanza Group

Craig Lubow
913-963-2534 (cell)

From: "Donahue, Brian T CIV USARMY CENWK (US)" <Brian.T.Donahue@usace.army.mil>
To: CL <alanskoalas@yahoo.com>
Sent: Tuesday, December 13, 2016 2:23 PM
Subject: RE: [EXTERNAL] Public Comment on dredging expansion proposed for Kansas river

Mr. Lubow - Are you submitting the comments on behalf of the Kanza Group or yourself as a private individual?

Thanks,
Brian Donahue
U.S. Army Corps of Engineers, Regulatory Branch
601 E. 12th Street, Suite 402
Kansas City, Missouri 64106-2896
(816) 389-3703
http://www.nwk.usace.army.mil/Missions/RegulatoryBranch.aspx

-----Original Message-----
From: CL [mailto:alanskoalas@yahoo.com <mailto:alanskoalas@yahoo.com>]
Sent: Monday, December 12, 2016 8:55 PM
To: Donahue, Brian T CIV USARMY CENWK (US) <Brian.T.Donahue@usace.army.mil <mailto:Brian.T.Donahue@usace.army.mil> >
Cc: Kanza Group Sierra Club <s-kanzaexcom@googlegroups.com <mailto:s-kanzaexcom@googlegroups.com> >; Ks-chapterleaders Leaders <ks-chapterleaders@googlegroups.com <mailto:ks-chapterleaders@googlegroups.com> >
Subject: [EXTERNAL] Public Comment on dredging expansion proposed for Kansas river

Dear Mr. Donahue:

I am the co-conservation chair for the Kanza Group of the Sierra Club. I am submitting the comments below for the U.S. Army Corps of Engineers to consider in the proposed addition of dredging sites near Topeka and Cedar Creek.

We oppose the expansion for a variety of reasons, to wit:

(1) Dredging places our drinking water supplies at risks, as well as substantially increasing treatment costs. Over 800,000 Kansans obtain their drinking water from the Kaw, some directly through intakes from the river and others from wells near the river.

(2) Dredging contributes to erosion through removal of the sand and sediment with the resulting large holes in the riverbed. This is likely to result in the overall degradation (lowering) of the riverbed.

(3) The erosion will damage wildlife habitat through damage to farmland, trees, and vegetation.

The proposed expansion would result in removal of nearly four times the current rate of sand removed. We also join in the additional comment submitted by the Friends of the Kaw.

Please let me know if you have any questions and thank you for accepting our comments.

Craig Lubow
913-963-2534 (cell)
Conservation Co-Chair

Kansas Riverkeeper®
Dawn Buehler

Education Director
Laura Calwell

Education Specialist
Kate Delehunt

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Friends of the Kaw
P.O. Box 1612
Lawrence, KS 66044
785-312-7200

Report River Pollution:
1-866-RIV-KEEP

Email:
Riverkeeper@KansasRiver.org

Website:
Http://KansasRiver.org

December 12th, 2016

Mr. Brian Donahue
Regulatory Project Manager
U.S. Army Corps of Engineers
Kansas City Regulatory Office
601 East 12th Street, Room 402
Kansas City, Missouri 64106-2896
816-389-3703
brian.t.donahue@usace.army.mil

Re: Public Comment for Draft Environmental Impact Statement for Kansas River Commercial Dredging

Permits for:
Kaw Valley Companies, Inc.
Holliday Sand & Gravel Company
Master's Dredging
Builder's Choice Aggregates, Inc.
LLB, LLC

Dear Mr. Donahue and U.S. Army Corps of Engineers (USACE):

Kansas is ranked 49th out of 50 states in terms of the percentage of the state that exists as public land. The vast majority of the public land that exists in Kansas is part of the Cimarron National Grasslands and appears closer to Denver than it is to our own state population center in eastern Kansas. While many of our neighboring states benefit from public access to waterways and bountiful public lands, Kansans are restricted to three legally navigable waterways and a smattering of public land near the populous areas of the state. Out of the three existing navigable waterways in the state, the Arkansas River runs dry for tremendous reaches and does not pass near the population center in Kansas City, and the Missouri River is often restricting to recreational users because of high flows and large barge traffic. That leaves only the Kansas

River as one of the best outdoor recreational opportunities in the state of Kansas.

The river is a precious asset for the citizens of Kansas and it is all of our responsibilities to make sure it is treated as such. It is uniquely located near the population centers of northeast Kansas, is free of large boat traffic, provides gradual flows in the river that allow for people of varied experience levels to enjoy the river in its entirety. The river has been widely recognized for its importance as a recreational and economic resource. Specifically, the Kansas River has been the recipient of National Water Trail status by the Department of the Interior and has been recognized by state and local governments as a vital resource. The Governor of the state has taken the time to paddle on the river on multiple occasions and has formed the Kansas River Recreation Committee to pursue additional uses for the river. In addition to state and local recognition, the river has also been recognized nationally in recreational magazines and individuals have travelled from across the country to enjoy the rivers' beautiful sand bars and lush riparian areas.

Arguably, the largest existing threat to this vital economic and recreational resource is sand dredging in the channel of the river. It has been demonstrated in multiple peer-reviewed academic journals that dredging in other rivers has negative effects on river channel geomorphology and; therefore, is potentially dangerous to many of the features which make the Kansas River unique and valuable as an economic and recreational resource. Visual evidence already exists along stretches of the river that have been subject to dredging, and additional scientific evidence from Dr. Melinda Daniels and Craig Paukert's research describes in detail the negative effects of in-river dredging on the Kaw (Fisher et al. 2009). In 2012, the Kansas River was recognized as one of America's Most Endangered Rivers by the non-profit American Rivers because of the effects of in-river sand dredging.

It is clear that the Kansas River is an infinitely valuable recreational and economic resource to the citizens of Kansas, and numerous lines of anecdotal and scientific evidence indicated that sand-dredging is degrading the condition of the river in a way that may permanently damage it for recreational benefits. The geomorphological impacts of sand-dredging are substantial, and are worsened by other negative effects on recreation including clearing of riparian vegetian near dredges, noise pollution from continuous operations of machinery associated with dredging, and the dangers of cables and equipment in the river itself. The EIS (specifically section 3.7, page 3.7-11) should be revised to include the loss of sand bars created by dredging. In light of the existing evidence surrounding the detrimental effects of in-river sand-

dredging I urge the United States Army Corps of Engineers (USACE) to promote mining of sand from pit mines located appropriately in the flood plain of the river. Furthermore, taking into account my own professional and personal experience, I would recommend that the USACE revoke permits for existing in-river sand-dredging and deny the addition of any future permits.

Thank you for the opportunity to make comment on this monumental decision for our state, and thank you for the efforts you have put into this EIS to date.

Sincerely,
Mike Rawitch

President, Friends of the Kaw
Environmental Consultant, MS & GIT

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Dawn Buehler

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December 12, 2016

Mr. Brian Donahue
Regulatory Project Manager
U.S. Army Corps of Engineers
Kansas City Regulatory Office
601 East 12th Street, Room 402
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Re: Public Comment for
Draft Environmental Impact Statement for Kansas River Commercial Dredging

Permits for:
Kaw Valley Companies, Inc.
Holliday Sand & Gravel Company
Master's Dredging
Builder's Choice Aggregates, Inc.
LLB, LLC

Dear Mr. Donahue and U.S. Army Corps of Engineers (USACE):

Please accept this as the official public comment from Friends of the Kaw (FOK) regarding the Draft Environmental Impact Statement for Kansas River Commercial Dredging. FOK is a nonprofit environmental and conservation group whose mission is to protect and preserve the Kansas River (known locally as the Kaw) for future generations. We have been involved in dredging issues since our founding in 1991.

As a Kansas native and the Kansas Riverkeeper with Friends of the Kaw, I have a vested interest in our river and how it impacts Kansans. I grew up on the banks of the Kansas River in the Kaw River Valley in De Soto and I know the river well. I grew up on a 2,000-acre farm and spent much of my childhood fishing, camping, boating and canoeing on the river and I know its value to locals. We, and the members we represent as well as the local community, know a healthy river is more valuable than a degraded river, used as a source of sand and gravel. The Kaw belongs to the people of Kansas as a public waterway. The sand bars, the river and its associated ecosystems belong to Kansans and it's the job of those of us in the position to protect it, to do so.

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Friends of the Kaw strongly prefers the No Action Alternative to cease dredging on the Kansas River. However, if the USACE allows permits to be issued, we recommend that the cumulative annual limit be capped at the current extraction levels of 509,145 tons and all current permits should be given 5-year non-renewable permits to allow for a transition to appropriately sited pit mines in the Kansas River Valley. We request that two new permits be denied.

Expansion of Amount Dredged. The Draft Environmental Impact Statement under review seeks to increase total dredging on the Kaw from 509,145 tons in 2015 to 1,900,000 tons under the current requested permits, and increase of 3.7 times the current rate. As per page 143 of the Draft EIS, "*It is difficult to determine the amount of sand and gravel that will be needed to meet future market needs; however, the historical record for sand and gravel production from the Kansas River provides a general trend for market demand."* The cumulative annual limit should be capped at the current extraction levels of 509,145 tons, as well as not increase the total number of dredging sites to eight with two new dredge sites above Topeka and at Cedar Creek. **FOK strongly objects expansion of dredging on the Kansas River.**

Bank Stabilization. Dredging causes erosion to private property and damages government infrastructure. Scientific studies (Fischer et al., 2009) show that when sand is removed from a prairie river like the Kaw, the river seeks to fill the holes by carving away soil from the riverbanks. This erosion damages valuable farmland, trees and vegetation that serve as wildlife habitat, and taxpayer-funded infrastructure like flood control measures, bridges, and roads. Much of this riparian is mature forest trees that are not easily replaced and take time. The removal of trees and vegetation endanger the stability of the bank, and risk degradation of wildlife habitat, water quality, and the inadvertent loss of private property.

Removal of sand and sediment by dredging creates large holes in the riverbed that can expand and migrate. Erosion caused by flowing water makes the dredge hole expand both upstream and downstream. Downstream there is less sand available to backfill what the river carries away, resulting in fewer sandbars and overall degradation (lowering, or incision) of the riverbed.

Drinking Water Supply. Dredging damages our drinking water source and raises treatment costs. Dredging stirs up industrial pollutants that are expensive for municipal treatment plants to remove from drinking water. Over 800,000 Kansans draw drinking water from the Kaw (for example, one-third of Johnson County, and all of Topeka). Three major municipal intakes draw water directly from the river, and several more municipalities draw groundwater from wells near the river. Dredging above Topeka could impact the Topeka weir, which is Topeka's only source of drinking water. The direct effects of dredging and incision include undermining of water supply facilities.

Recycling of Concrete. Concrete has historically been sent to landfills for disposal, but in recent years concrete recycling increasingly supports green infrastructure practices. Concrete recycling generated aggregates as building structures or roads are demolished, reusing materials while also lowering construction costs. According to http://www.cdrecycling.org/concrete-recycling, 140 million tons of concrete are recycled each year in the United States. This recycled concrete aggregate is high quality and meets or exceeds all applicable state and federal specifications, including being an acceptable source in new concrete by ASTM and AASHTO standards. The recycled aggregate is also showing better performance over new sourced aggregates and has a high yield because recycle aggregates are lighter weight per unit of volume, which results in reduced construction costs including materials and hauling. These benefits result in reduced environmental impacts from dredging, in addition to lower transportation and overall costs to the consumer.

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Economics of pit versus in-river dredging. We contacted Holliday Sand and Gravel and Kaw Valley Companies in August 2010 to inquire about the economics of sand production from the Kansas River. Both companies obtain sand from Kaw in-river dredges and pit mines; neither indicated that costs differ between sand obtained from one method versus the other. Regardless of where the sand is obtained from, the average price of sand from Holliday Sand and Gravel is $12.65 per ton, and the average price of sand from Kaw Valley Companies is $12.00 per ton for wet sand and $36.00 per ton for dry sand. Both companies stated that one can buy sand that is exclusively from Kaw in-river dredges or exclusively from pit mines without any difference in cost. Transportation cost of sand in price per ton per mile was also investigated. Mike O'Dell of Holliday Sand and Gravel estimated that it costs $0.15 per ton per mile to transport sand, either obtained from pit mines or Kaw in-river dredges. Kaw Valley Companies did not have any data on their transportation costs. *Therefore, neither indicated cost differences between sand obtained from Kaw in-river dredges and from pit mines.*

Recreation. Dredging rigs and cables put recreational river users at increased risk. Since 2003, we assisted in increasing river access from three to twenty-three. River tourism is on the rise. Dredging is not worth the risk to other river users, particularly for areas that are new dredging locations, such as above Topeka. Even for former dredging sites, such as the Cedar Creek location, reestablishment of dredging is a very big risk to recreation users, specifically, Friends of the Kaw paddle trips. We routinely take the public on the river and the rigs and cables put recreational river users at increased risk of accidents. Additionally, this area has not completely recovered from previous dredging. We are very concerned about the potential dredge site at Cedar Creek and how it will impact our Educational Paddle Trips with youth across the region.

In reference to the Draft EIS, in section 3.7 Recreation, page 3.7-6 Potential Hazards to Recreational Boaters: The Topeka Coffer Dam is not listed as a potential hazard. It is also not included in Figure 20. This is one of the biggest hazardous on the river and people have died at this site. Please add this to the list of potential hazards. Additionally, in 2017 there are plans to begin the construction of a white-water area and new safe passage at this Topeka Coffer Dam. This construction project is being completed by the Topeka Riverfront Authority and will provide a safer passage for boaters across this dam. We feel very strongly that the dredging that will occur upstream of the dam will be in a direct conflict with increases recreational traffic on the river due to the new white water recreational area.

In reference to the Draft EIS, page 3-7.9, section 3.7.2.1 Propose Action, Direct Impacts: This section states that there will be diminished recreational experiences due to noise and visual impacts on the river around the working dredges, however it states that …."these impacts are generally localized due to the sinuous nature of the river channel and screening by riparian vegetation". This statement is simply an opinion. This is not a fact. When you are recreating on the river, the noise is actually greater due to the valley of the river channel. Additionally, a dredge operation will destroy the riparian vegetation, so there will not be a screening for the adjacent land owners. This is completely inaccurate. Continuing on in this section, the discussion on page 3.7-10, paragraph two, should discuss the new Topeka Coffer Dam white water experience just below Kaw State Park and how it could be impacted by the dredge activity above the site.

In reference to the Draft EIS, Section 3.7, page 3-7.10: This section states, "The current USACE permits also contain a Special Condition that requires dredge operators to allow safe passage past dredge equipment for all boats, rafts, and other water craft". This section also goes on to reference mitigation measures in Section 5.2.4. In reference to these sections, "the dredge operators must remain vigilant for approach watercraft….", this does not currently happen. When dredge operators are working, they typically have their backs turned to oncoming watercraft and don't see them. We have experience this many times and are very concerned about the safety of the public on the river in

relationship to these dredge operations. It will only take one accident for this to be taken seriously and FOK would like to keep that from happening. Dredging is not safe for the Kansas River when we have so many people recreating on the river. As a minimum, we propose that all dredge activities only be allowed to occur from Monday through Friday from 8:00 am to 5:00 pm and absolutely no dredging on the weekends.

In reference to the Draft EIS, Section 3.7, page 3.7-11, Indirect Impacts: Please add loss of sandbars to the list of things that are impacted by the dredging. The sandbars provide habitat for wildlife and are a source of recreation, fishing and camping for those that use the river recreationally.

The Kansas River is a public waterway and is used by many Kansans for recreation and we must protect their right to use their river. The Kansas River was designated as a National Water Trail in 2012 by U.S. Department of the Interior Secretary Ken Salazar and Kansas Governor Sam Brownback. They convened in Manhattan, Kansas to celebrate the designation. The listing was designed to promote river recreation, encourage community stewardship and inspire local tourism.

Kansas Governor Sam Brownback has canoed down the Kansas River with Friends of the Kaw and Kansas Department of Wildlife, Parks and Tourism many times to bring attention to the recreational benefits of the Kansas River. In 2013, Governor Sam Brownback also appointed Kansans to the River Recreation Committee to advance recreational and tourism opportunities on the Kansas River. The committee members represent the communities along the Kansas River.
Our state leaders are promoting this river for recreation both publicly and in their own promotions on the state's travel website at http://www.travelks.com/ksrivertrail/. The State of Kansas is encouraging recreation on our river. Friends of the Kaw estimates that our organization alone brings 700 to 1000 people on to the river each summer to canoe and kayak with our educational float trips where we teach people about the Kansas River. Each time that we float, we encounter numerous recreationists on the sandbars fishing, camping, picnicking or otherwise just enjoying our river.

SCIENTIFIC EVIDENCE ON THE IMPACTS OF DREDGING

Preliminary results from Kansas State University researchers Melinda Daniels and Craig Paukert (Fischer et al., 2009) further delineates the environmental impacts of dredging on the Kansas River. In a study sponsored by the Kansas Department of Wildlife and Parks (KDWP), the researchers surveyed major dredge holes on the Kansas River using state-of-the-art acoustic Doppler technology to map river channel topography and measure water velocity. They quantified riverbed incision in dredged reaches, and attributed excessive upstream and downstream bank erosion to dredging. They also discovered that while the Kansas River averages four to five feet deep, active dredge holes can measure up to forty feet deep.

Other points of interest from the research:

- These dredge holes "migrate" both up and downstream, sometimes very quickly depending on water flow. Even during small flow increases, researchers documented the upslope lip of a dredge hole traveling upstream. Unless bedrock or a physical structure like a dam stops the hole, it can even migrate up the tributaries. This means that the impacts of dredging are not limited to the dredge holes, but can affect the entire Kansas River and the watershed.

- Fish habitat is significantly different around dredge holes. The impact of migrating dredge holes on tributaries could affect endangered species like the Topeka Shiner, and more study is needed to understand how dredging can impact fish throughout the riverine ecosystem.

- Dredging in a sand bed river like the Kaw deepens and widens the river channel, causing erosion to the riverbanks. This causes a drop in both the water level of the river and the adjacent water table in the floodplain. In turn, this drop has the potential to affect municipal wells and intake pipes for water treatment plants and irrigation rigs. The drop in water level can also affect river vegetation like the cottonwood, whose roots need to reach a good water supply.

- When briefing FOK on the preliminary results of the research, Daniels stated: "If you take 3.2 million tons from the river bottom, then the river will take 3.2 million tons from the riverbanks, trying to balance the sediment load in the system. That's the simple physics of how water works in river channels to transport sediment. Any riparian owner should be worried, particularly farmers with unforested riverbanks next to their fields. So, should anyone with a water intake pipe or a creek in their backyard. The effects of in-channel dredging will propagate both upstream and downstream from the dredge site until a hard control point, like a dam or a bedrock outcrop, is reached. That means tributary streams as well as the main river."

- How fast will the dredge holes move? Water movement on the Kaw is greatly influenced by how much water the Army Corps releases from upstream reservoirs. Extreme rains combined with reservoir releases add extra velocity to the Kansas River system. In some circumstances, this may mean the dredge holes have the potential for very rapid movement. Daniels is seeking additional funding for a second phase of the study, to model dredge hole migrations under different flow regimes.

Again, this study represents a significant increase in our knowledge about the environmental impacts of dredging on the Kaw. These new circumstances and information are very relevant to the environmental concerns and effectiveness of the Final Environmental Impact Statement (EIS) and Regulatory Plan for the administration of permit applications for commercial dredging activities on the Kansas River.

The Draft Environmental Impact Statement under review seeks to increase total dredging on the Kaw from 509,145 in 2015 to 1,900,000 under the current requested permits. No justification is provided for increasing the current cap 3.7-fold. The cumulative annual limit should be capped at the current extraction levels of 509,145 tons and current total number of dredging sites (six). **FOK strongly objects expansion of dredging on the Kansas River.**

In summary:

- We request a public hearing on the dredging issue to take place.

- The USACE must require NPDES and 404 permits for these dredging activities.

- FOK strongly urges the USACE to deny all permits, and end sand and gravel dredging on the Kansas River. However, we would be amenable to allowing current permits a five-year window to transition to appropriately sited pit mines in the Kansas River Valley.

As we will explain in detail below, the proposed dredging activities are not in the public interest. Furthermore, the proposed increase in dredging operations falls far short of the necessary criteria to

receive a permit from the USACE. The private and public needs for the proposed river dredging are minimal. There are several appropriate locations along the Kansas River where sand and gravel companies can practically pursue the alternative of obtaining high quality and affordable sand and gravel from pit mines. Sand from pit mines can easily fulfill the public's need for raw materials in building and construction. FOK has already worked with several companies in appropriately siting these mines.

Above all, the detrimental effects of dredging on public and private interests significantly outweigh the benefits. The long-term environmental effects of private dredging operations will permanently damage several public uses of the river, such as providing affordable (cost-effective to treat and distribute) drinking water, as well as water for irrigation. Dredging also causes erosion to valuable farmland and creates risk for public infrastructure such as bridge footings. The impact of dredging also alters the physical river channel to the extent that it has an impact on local fish communities - potentially even on endangered species that live adjacent to the Kaw, in tributaries further up the watershed.

PUBLIC INTEREST REVIEW

Private dredging operations threaten critical public uses of the river. As FOK discusses below, the probable cumulative impacts of the proposed dredging activity on the public interest are detrimental in both the long and the short term, as evaluated under the guidelines promulgated under the authority of Section 404(b) of the Clean Water Act (33 USC 1344). The Daniel and Paukert discovery that dredge holes can migrate even up the tributaries means that the impacts of dredging are felt throughout the Kansas River watershed, with the widespread potential to affect conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs and, in general, the needs and welfare of the people.

FOK will mention only a few of the implications for dredging's impact on the general needs, welfare, and environment of people in the Kansas River watershed:

- **Water Quality, Water Supply and Conservation, Energy Needs.** According to the Kansas Department of Health and Environment (KDHE), more than 800,000 Kansans depend on the Kansas River for their water supply, either from treating river water or obtaining well water. When dredging lowers the river level and the water table level, it puts at risk the drinking water for more than 20% of the state's population. These people need affordable drinking water a lot more than they need sand, especially when sand is easily obtainable from sand pit mines. Likewise, the intake pipes for three major electric power plants lie along the Kansas River. Cumulatively (and especially during critical hot summer months, when river flows tend to be low), these plants produce power that is used throughout the region. Diminished water levels threaten their ability to produce this power. Dredging also has an impact on water quality: it stirs up silt that kills mussels and other aquatic life and is expensive to remove from drinking water; and it churns up old industrial pollutants (like PCBs and heavy metals) that have settled to the river bottom, and adding to the river's contamination levels. This is especially a problem in the stretch between Lawrence and Eudora where KDHE and KDWWPT has issued fish consumption advisories and warnings.

- **Soil Conservation, Economics, Land Use, Shoreline Erosion and Accretion, Energy Needs, Food and Fiber Production, Floodplain Values**. Some of the most valuable agricultural topsoil in the nation and the world lies along the Kansas River, and its crops are

used for biofuels, food, and fiber. Dredging the river bottom causes erosion of the riverbanks. Any loss of this topsoil resource has an economic impact on farmers and other riparian property owners. Likewise, the erosion and migrating dredge holes also threaten flood control structures and valuable taxpayer assets such as roads and bridges. Private railroads also make extensive use of tracks through the Kaw Valley, and some portions of the tracks are sited extremely close to the river. These trains are major transporters for goods and raw materials, including the coal for power plants located in the eastern United States.

- **Fish and Wildlife Values**. Dredging affects fish populations in two major ways: (a) Fish habitat is significantly different around dredge holes, which changes the predation patterns and dynamics of native and invasive fish communities, and (b) The impact of dredge holes migrate up the tributaries. More study is needed to see how endangered species like the Topeka Shiner are affected, as well as other fish throughout the riverine network. Nineteen threatened and endangered fish species have been collected in the Kaw, six since 2006.

- **General Environmental Concerns**. The stability of the river channel and riverbanks are critical not only to the state and region's community and economic survival, but also to the very ecological integrity of the Kansas River watershed and the tributary ecosystems that depend on it. The environmental impacts of dredging threaten this complex network. The Kansas River is the longest prairie river in the world, and it runs through a prairie ecosystem that is already under pressure from commercial agriculture. Most of the river species – animal, vegetable, fish – have very little habitat left, and already find themselves restricted to increasingly narrow environmental corridors.

- **Recreation and Esthetics**. Recreation is already an important public use of the Kansas River. The Department of the Interior has declared the Kansas River Water Trail as one of its 101 Top Conservation Projects under the America's Great Outdoors Initiative (http://www.doi.gov/news/pressreleases/AMERICAS-GREAT-OUTDOORS-Salazar-Highlights-Two-Proposed-Projects-in-Kansas-to-Promote-Outdoor-Recreation-Conservation.cfm). Canoeing and kayaking recreation revenue in Kansas is calculated at around $3.7 million per year, and the Kansas River now has twenty-three river access points and/or parks along the entire 173-mile-long river corridor. Plans are currently underway for at least two more. Recreation brings income to these river communities, and dredge sites not only ruin the aesthetics of river kayaking, but cables attached to dredging rigs also cause hazardous conditions for recreational boaters.

COMMENTS ON SPECIFIC PERMITS

Friends of the Kaw opposes the LBB, LLC permit above Topeka river mile 89.70 to 91.0 for a requested extraction of 300,000 tons. The Topeka Coffer Dam is located at river mile 87, just 2.7 miles from this dredge site. The Kanas River water intake at Topeka is the only source of drinking water for the City of Topeka. Dredging damages our drinking water source and raises treatment costs. Dredging stirs up industrial pollutants that are expensive for municipal treatment plants to remove from drinking water. Dredging above Topeka could impact the Topeka weir, which is Topeka's only source of drinking water. The direct effects of dredging and incision include undermining of water supply facilities. Additionally, Friends of the Kaw is working with Kansas Department of Wildlife Parks and Tourism to install boats ramps at Maple Hill and at the "under construction" new Willard Bridge just upstream from the proposed dredge site. The addition of these two new boat ramps will increase the recreational travel on this stretch of the river where the dredge is being proposed. We request that the USACE deny this permit to dredge.

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The addition of one in-river dredge site proposed for Master's Dredging at Cedar Creek river mile 26.1 – 27.6 is the most disturbing to Friends of the Kaw. This stretch has been closed to dredging because of unacceptable bed degradation and should not be exploited again. This is also the five-mile stretch that Friends of the Kaw uses for the majority of our Educational Float Trips (we host close to 600 individuals per year.) This section is also used by many other paddlers because it is a scenic, short stretch in the Kansas City area between two easily accessible boat ramps (De Soto and Cedar Creek.) This is a very popular float because it can be done in a half of a day and has a very short and direct shuttle route. This short float is also located in the most populated area on the river and is used by many novice paddlers and families with children. Friends of the Kaw estimates that in a given year over 800 individuals paddle this section of the river. Introducing a dredging operation between De Soto and Cedar Creek adds dire safety concerns for many paddlers, boaters, fisherman and nature lovers, including a very present bald eagle nest located at this section of the river.

NPDES AND 404 PERMITS

FOK contends that the USACE should require all of these dredging operators to submit NPDES and 404 permits. In general, FOK maintains that (1) discharges from sand and gravel dredging operations on the Kansas River are not "incidental fallback," and (2) that such discharges are thus subject to the Corps' permitting process. FOK also maintains that (3) the Corps cannot issue a blanket determination that commercial dredging operations on the Kansas River result only in incidental fallback, and that (4) the Corps is bound by 33 C.F.R. § 323.2(2) to provide project-specific evidence showing that such dredging activity results in only incidental fallback.

We make these claims on the basis of the following authorities:

- Please see section 323.2 (3) (i) of the Corps of Engineers, which states: "Discharges of pollutants into waters of the United states resulting from the onshore subsequent processing of dredged material that is extracted for any commercial use (other than fill). These discharges are subject to the section 402 of the Clean Water Act even though the extraction and deposit of such material may require a permit from the Corps or applicable State section 404 program."

- Also, in accordance with Section 404(a) of the Clean Water Act, the Army Corps of Engineers (the "Corps") is authorized to issue permits for the discharge of "dredged or fill material" into the waters of the United States. 33 U.S.C. § 1344(a). Under the Corps' own regulations, permits are "required for the discharge of dredged or fill material into waters of the United States." 33 C.F.R. § 323.3(a). The "term discharge of dredged material means any addition of dredged material into, <u>including redeposit of dredged material</u> <u>other than incidental fallback within</u>, the waters of the United States." 33 C.F.R. § 323.2(1)(3). *Emphasis added.*

- Likewise, the Corps regulations state, "[t]he Corps and EPA regard… in-stream mining or other earth-moving activity in waters of the United States as resulting in a discharge of dredged material <u>unless project-specific evidence shows that the activity results in only incidental fallback.</u>" 33 C.F.R. § 323.2(2). *Emphasis added*. These regulations define "incidental fallback" as the "redeposit of small volumes of dredged material that is incidental to excavation activity in waters of the United States when such material <u>falls back to substantially the same place as the initial removal</u>." 33 C.F.R. § 323.2(2). *Emphasis added*.

In general, in-stream commercial sand and gravel dredging discharges do not result in “only incidental fallback.” By definition, for a dredging discharge to be considered “incidental fallback” such discharge must fall “back to substantially the same place as the initial removal.”

FRIENDS OF THE KAW’S RECOMMENDATION: Friends of the Kaw would prefer that the USACE close the river to all dredging, but at a minimum deny the two new dredge operations above Topeka for LBB, LLC and at Cedar Creek for Master’s Dredging. All other current permits should be given 5-year non-renewable permits to allow for a transition to appropriately sited pit mines in the Kansas River Valley. It is time for the dredging to be moved out of the Kansas River once and for all.

As a Kansas native, it is my hope that the Kansas River can be preserved for future generations. However, allowing dredging on the river will caused the banks to continue to collapse, the river to cut and take a new course, destroy wildlife and fish habitat, and be detrimental to the recreational benefits that the State of Kansas, National Park Service and our Governor have been promoting. This just seems contrary to what everyone in the state is working towards. And this certainly won’t maintain the river for future generations.

Thank you very much for the opportunity to submit this public comment.

Sincerely,

Dawn L. Buehler
Kansas Riverkeeper
Friends of the Kaw

KANSAS RIVERKEEPER®

WATERKEEPER® ALLIANCE

WaterOne

Setting the Standard for Utility Excellence

Water District No. 1 of Johnson County

December 12, 2016

Mr. Brian Donahue
Project Manager
U.S. Army Corps of Engineers
Kansas City Regulatory Office
ATTN: OD-R
601 East 12th Street, Room 402
Kansas City, Missouri 64106-2896
Brian.t.donahue@usace.army.mil

RE: WaterOne Comments in Response to Draft Kansas River Dredging Environmental Impact Statement

Dear Sirs:

On behalf of Water District No. 1 of Johnson County, Kansas, I am submitting comments to the Draft Environmental Impact Statement on Kansas River Commercial Dredging. WaterOne is a public water supply system that serves over 400,000 customers in 17 cities of Johnson County, KS. About half of the water supply is derived from the Kansas River. WaterOne has a surface water intake at river mile 15 and a well field located adjacent to the river from about river mile 11.5 to 13.9. Previously we operated 21 vertical wells in the well field but were forced to take the wells out of service due to loss of capacity. Currently, the design phase for the installation of a horizontal collector well is underway. The collector well will be located at approximately river mile 11.2. An additional horizontal collector well located at river mile 13.8 and 7 new vertical wells located between river miles 11.2 and 13.8 are planned for construction in the year 2020.

WaterOne would like to reiterate that existing State Regulation established by K.A.R. 5-46-3, subsection c.2.B, be stated in the EIS, acknowledging that a sand and gravel removal operation shall not be located within one mile of a public water supply intake. In addition, a recommendation should be made to modify the regulation to specifically state that dredging will not occur within one mile of a horizontal collector well. Collector wells have become increasingly common in the Kansas City area and are a technology that essentially pulls water in horizontal directions, including from beneath the river. Significant dredging of the river bed will not only decrease potential capacity of the well, but could also compromise the integrity of the structure that reaches beneath the river bed. It appears the Draft EIS is recognizing collector wells as "water intake structures" and would apply the 500 foot restriction on dredging in relation to said collector wells (Draft EIS 3.6.2.1). WaterOne believes the one mile restriction is more appropriate and dredging should not be permitted from river mile 10.2 to 16.0 in order to protect its water source facilities on the Kansas River.

Another concern we previously mentioned is silt discharges from dredging have adversely affected the recharge of the alluvial aquifer that WaterOne wells draw from. Since roughly 90% of the water extracted by a horizontal collector well comes from the

river, protecting the connectivity of the river to the groundwater formation is critical. The existing wells are essentially worthless to our system as it stands and have resulted in the need to install the collector well to replace the capacity at a cost of $4.7 million. The additional wells in 2020 will cost another $7.2 million. We urge the Corps to examine the impacts of dredging on the Kansas River bed, as well as excessive silt discharge and include the information in the EIS. In 1991, the EIS limited channel degradation to not more than 2 feet per 5 miles and if that limit was exceeded, dredging in that reach would be suspended. This limitation or a more stringent one going forward in the current EIS is critical to the protection of WaterOne's facilities.

Certainly WaterOne is concerned about dredging operations near our water intake structure and the potential for not only physical damage to the structure but its continued viability dependent upon water surface levels that are impacted by degradation of the river bed. We have similar concerns regarding the impact dredging has on WaterOne's ground water wells. WaterOne independently looked into the loss of well capacity in the 21 wells and found that river bed degradation was a significant contributing factor. Findings of the Missouri River Bed Degradation study which are about to be submitted to Corps Headquarters, point to commercial sand dredging as a major cause of degradation of the river bed. Up until now, the Missouri River Degradation study findings have been discounted due to the incomplete status of the study, however we have reached a concluding point. The findings are no longer preliminary and therefore should be considered by the Corps when making decisions regarding dredging permits.

The sand and gravel needs of the Kansas City area can be met by off river mining. Certainly the dredging industry representatives will not be in favor of further restriction of river operations or moving off the river completely. For years dredgers have enjoyed a "no cost" place of operation but it has been at the expense of the public infrastructure in the areas they operate. The proposed EIS for Kansas River dredging must consider the significant cost to the public in the long run in terms of repair and maintenance required to infrastructure if current conditions persist and the threat of total failure of that infrastructure over time.

Best Regards,

Darci L. Meese
Government Affairs Coordinator
WaterOne
(913) 895 5516
dmeese@waterone.org

DLM/dlm

Holliday
SAND AND GRAVEL COMPANY
9660 LEGLER ROAD
PH: (913) 492-5920 LENEXA, KS 66219-1291 FAX (913) 438-0200

December 12, 2016

Brian Donahue
USACE - Regulatory Branch
601 E. 12th Street, Suite 402
Kansas City, MO 64106-2896

Dear Mr. Donahue,

Holliday Sand and Gravel Company, LLC (Holliday) respectfully submits the following comments on the Kansas River Commercial Sand and Gravel Dredging DEIS (DEIS).

INTRODUCTION AND BACKGROUND DISCUSSION

Holliday appreciates the informative discussion in the DEIS, but wishes to add some additional background on the history of dredging volumes to place the current and proposed Regulatory Plans in their proper context. Holliday Sand has been dredging sand/gravel in Kansas City since the 1930's. Years ago, almost all the sand for the Kansas City metropolitan area came from Kansas River dredging. Records indicate that up to three million tons were being dredged in the Kansas City reach alone (from Bonner Springs to the mouth) in the 1970's and 1980's. This likely exceeded the amount available moving down the river and resulted in degradation and a migration of dredges upstream as areas of the river were depleted of sand. This prompted the need to determine how much sand could and should be dredged without further impacts. In the late 1980's a Kansas Commercial Dredging EIS (EIS)was conducted for that purpose. It concluded that over three times as much sand was being removed as was naturally being replenished and that some areas were naturally degrading with no dredging (e.g., the DeSoto reach), and that some areas just have naturally unstable banks due to sharp bends. The EIS recommended alternatives were consolidated into a Regulatory Plan with a Monitoring Program (Regulatory Plan). **Dredging in the reach closest to Kansas City was reduced by over two-thirds, and included tonnage limits by reach and by permit. Where single dredges were previously removing one million tons, they were limited to 300,000 tons. In addition, dredging would be stopped in any five-mile reach that had more than two feet of degradation for any reason.**

The Monitoring Program with its two-foot degradation limit has resulted in the closing of nine facilities since 1991. Dredge sites that have natural bed depth controls nearby are likely the only

sites that will be able to operate long term. The dredging sites that are near naturally degrading areas have already closed or will likely eventually close.

However, because of recent higher flows some dredge sites have aggraded back to within two feet of the original 1992 baseline bed elevation and can technically be reopened. It is also the case though that the next drought may likely result in the two foot limit again being reached and those dredges will be deactivated once again. This is not detrimental to the river bed or nearby riverbanks sincethe River is protected by the two-foot restriction. These dredgers have a vested property interest by the River and hope to salvage some of their investment with some very limited dredging. **This is a regulated and likely time-limited resumption of previously allowed dredging, not an expansion.**

RESPONSE TO COMMENTS

Further, Holliday provides the following comments by topic responding to the Scoping Comments in Table 33 in Section 7.1.1.3, for consideration by the USACE.

Boating/Recreation

Holliday is committed to the safe passage of recreational watercraft though its dredge area and practices the following precautions through its policy, pasted below:

Safe Passage Plan

Required Equipment

- Dredges and floating pipelines shall be equipped with the appropriate navigation lighting and day shapes as required by the USCG Inland Navigation Rule 27(b) and 33 CFR 88.15 - Lights on dredge pipelines (see below).
- A fully operational horn, radio, searchlight and bullhorn shall be on hand to the Dredge Operator.
- Anchor wires shall be marked with bright tape, paint or flags to improve their visibility to a passing vessel.
- Lit buoys shall be placed at least 75 yards both fore and aft of the dredge cables to warn approaching vessels of "Cables Across River". As an alternative, round mooring buoys shall be attached to the dredge anchor cables and lit at night by spotlights, combined with signage on the dredge: "Warning – Cables Across River".

Normal Operation

- The Dredge Operator shall at no time leave the operation station unattended with the anchor wires raised into the channel.
- The Dredge Operator shall verify there are no vessels approaching from either upstream or downstream prior to engaging an anchor winch.
- Anchor cables shall not be held up out of the water more than 100 feet from the dredge except when maneuvering the dredge.
- Dredge Operators shall not operate or view any devices that are not job related that could distract them from their operating and lookout responsibilities while the dredge is in the river channel.

Vessel Passage

- When the dredge is approached by another vessel, radio contact should be attempted to confirm visual contact and which side the vessel will pass on.
- Processes that could cause the dredge to move or tighten the cables should be suspended until the vessel has passed.
- The dredge operator shall drop the anchor cable on the side the vessel is passing and move the dredge out of the channel as needed for 100 foot min. clearance.
- A sound producing device (horn) shall be used to signal approaching water craft and alert them of possible dangers of extended cables. Such devices shall be in compliance with Inland Navigation Rules 33 USC 2033 and 33 CFR part 86.

- At night, a spotlight shall be used to illuminate the cable or other hazard.

Restricted Visibility

- Should the dredge be located in the channel during restricted visibility, three blasts on the horn shall be sound at least every two minutes – one prolonged blast, followed by two short blasts per Inland Navigation Rule 35.

Dredge Mooring

- When unattended, the dredge shall be moored out of the navigation channel with the channel side anchor cable slacked onto the river bottom. White light/s are to be provided per Inland Navigation Rule 30 (one white light if under 30 meters (98') in length, otherwise a white light at the stern and one white light at a higher level at the bow).

CFR dredge lighting requirements:

§ 88.15 Lights on dredge pipelines.

Dredge pipelines that are floating or supported on trestles shall display the following lights at night and in periods of restricted visibility.

(a) One row of yellow lights. The lights must be:

(1) Flashing 50 to 70 times per minute,

(2) Visible all around the horizon,

(3) Visible for at least 2 miles on a clear dark night,

(4) Not less than 1 and not more than 3.5 meters above the water,

(5) Approximately equally spaced, and

(6) Not more than 10 meters apart where the pipeline crosses a navigable channel. Where the pipeline does not cross a navigable channel the lights must be sufficient in number to clearly show the pipeline's length and course.

(b) Two red lights at each end of the pipeline, including the ends in a channel where the pipeline is separated to allow vessels to pass (whether open or closed). The lights must be:

(1) Visible all around the horizon, and

(2) Visible for at least 2 miles on a clear dark night, and

(3) One meter apart in a vertical line with the lower light at the same height above the water as the flashing yellow light

Holliday supports recreation on the Kansas River, and when we are notified of an organized event, we shut down our operations, and secure our dredges to the bank. Holliday has participated and funded river cleanups on both the Kansas and Missouri Rivers and has donated labor and materials to public boat ramp construction. Holliday has donated 23 acres to the City of Shawnee for a riverfront park. Holliday will continue to support safe recreation on the Kansas River.

Water Quality
Dredging in a flowing river has not been shown to impact drinking water quality. Holliday has operated for decades upstream of water intakes with no impacts. By using electric dredges and readily biodegradable hydraulic oil the spill impact risk has been greatly reduced.

Regarding concerns of impacts from contaminated sediments, our dredge sites have been dredged, refilled by flowing sand, and then redredged annually since the 1960's. We are not dredging up old clays or soils that could potentially have trapped contaminants. We are dredging 5 to 15 feet of "made-in" sand sitting on top of bedrock. In addition all return water is routed through a settling pond that retains fines that are mechanically remove as needed.

Bed and Bank Erosion
The Kansas River is carved in sand. The banks are mostly natural (not reveted) and the river is free to migrate laterally; riverbanks normally eroding on the outside and depositing sand on the inside of the bends. The Kansas River does not have "natural flows". Its reservoir controlled discharges erode the bed and banks and those sediments enter the river. These sediments can either be dredged at sustainable levels or they build up, obstruct the channel and cause additional bank erosion.

After the 1990 EIS, the USACE adopted dramatically reduced dredging limits that would not contribute to bed degradation. Numerous river surveys since then have demonstrated that the USACE's limits on dredging are effective. In the 1990 EIS, Simons and Li determined by reach the amount of sediment already being transported and that quantity was used as a guide for setting dredging limits. Again, the sediments come from erosion due to runoff and clear reservoir discharges, and some erosion is going to occur whether dredging is allowed or not. Dredging at the current sustainable levels removes sand that would otherwise block the channel and could then deflect the current flow toward the banks. Therefore current dredging levels can actually reduce bank erosion.

Endangered Species/Habitat
Holliday's existing dredge sites have been in their present locations since the 1960's. They present no new impacts or threats to endangered species or to critical habitat. The dredges operate in essentially the same spot year after year. River dredging, by being sustainable, reduces the amount of river bottom acreage that would otherwise need to be cleared, stripped and dredged if we rely solely on land-based dredging. Therefore by allowing as much river dredging as possible impacts to species and critical habitat are reduced.

Noise
Holliday Sand operates electric dredges that are essentially silent on the water. We have not received any noise complaints, but will continue to monitor noise and look for ways to reduce noise emissions from the plants and loaders.

COMMENTS ON HOLLIDAY'S REQUESTED PERMIT

Holliday presents the following comments as to the terms of the Regulatory Plan and its own dredge permit:

1. Holliday opposes any deviation from the existing Regulatory Plan, except clarifications if needed for the resumption of a discontinued permit, which we have no need to exercise, and the revision of the reach limits where the AT&SF bridge has been removed. The Regulatory Plan is working and has proven to minimize dredging impacts to an insignificant level in stable reaches.

2. Holliday has requested no increase in tonnage, only the existing permitted 600,000 tons.

3. The boundary between Reach 1 and 2 (in the EIS and DEIS) has been defined as the AT&SF Bridge which no longer exists. The natural feature that defines the Reach 1 and 2 boundary is the armored Natural Rock Deposit located from RM 21.8 to RM 22.8. Since references to the AT&SF Bridge are being removed from the EIS it would also be appropriate to accordingly adjust the boundary mileage of the reaches from RM 21.2 to RM 21.5 (see the attached Exhibit 1 showing proposed revisions to Figure A-6 of the Regulatory Plan).

4. VIII. Restrictions Concerning Natural Formations
   Paragraph A. Natural Rock Deposits in the River Channel, sentence 2.c. should be revised "...a point 500 feet downstream of river mile 21.2", changing 21.2 to 21.8. RM 21.2 is incorrectly stated as the downstream limit of the Natural Rock Deposit.

5. Natural Rock Deposit Figure A-6, page A-19: Change "River miles 21.1" to 21.7. RM 21.7 would be 500 feet downstream of the lower extent of the Rock Deposit at RM 21.8. (See attached Exhibit 1.)

The following are Holliday's recommendations and requests for modifications to the dredge permit special conditions:

10% Carryover

Holliday requests that the same 10% carryover special condition on the Missouri River be allowed on the Kansas River. Many factors can affect the amount of tons actually dredged within a calendar year: floods, droughts, equipment failures, special projects and market fluctuations, all of which cannot be scheduled. This flexibility helps the dredger to better adapt their dredging activity to the conditions and thereby reduce economic and environmental impacts when conditions do not synch up with market demand or operational challenges. This special condition would allow dredging any undredged quota the following year, provided it does not exceed 10% of the annual permitted tonnage.

Reach Mileage Adjustment from 21.2 to 21.5

Holliday is requesting an extension of our very limited dredge permit, of only 800 feet (.15 miles), upstream another 2300 feet (.45 miles). The requested permit would be only 0.6 miles long (1.5 miles is allowed by the Regulatory Plan).

The now removed AT&SF Bridge and the reach limits have truncated Holliday's small dredge area and prevented extending its permitted dredging area upstream adjacent to its property limits. Holliday requests that it be allowed to extend its very short existing permit area from RM 20.55 – 21.15 up to RM 21.5.

RM 21.5 has already been referred to in the DEIS, in places, as the boundary between Reaches 1 and 2. There is no reason to restrict dredging to below the AT&SF Bridge any longer. There is no reason that dredging cannot occur 1500 feet below the Natural Rock Deposit, instead of the current 3400 feet (the Regulatory Plan only requires a 500 foot buffer).

This requested extension will have no impact on infrastructure, and will spread the dredging intensity slightly, reducing the risk of negative environmental impacts. We believe that this slight extension of the permit is consistent with and does not contradict the Regulatory Plan or the DEIS, and should be approved.

COMMENTS ON DEIS CONCLUSION

Holliday would like to concur and reiterate the following conclusions in the DEIS:

Reduced Tonnage Alternative
Holliday opposes the Reduced Tonnage Alternative as it is unclear how the reduced maximum tonnage would be allocated not only between the existing permits, but between reaches that may in the future be reopened to dredging. The existing and more effective two-foot degradation limit has proven to limit degradation from dredging at levels that then rebound after dredging ceases.

Missouri River sand and existing Kansas flood plain pits should not be considered as alternate sources for Kansas River sand. Missouri River dredging quotas have already been drastically reduced, especially near the Kansas side of the city. Missouri flood plain pits near the Kansas side have been found to have numerous access and operational problems that have prevented development.

Flood plain pits in Kansas anywhere near Kansas City are extremely difficult to acquire and permit. The existing pit sites are being heavily utilized and will likely be exhausted soon enough. The pit sites that replace them are going to be much more remote and result in significantly increased delivery costs.

CONCLUSION

Sand is a necessary component of many products that are needed by society. Like water, oil, coal, wind and sunshine, sand cannot be created only gathered or mined. Mining in the flood plain as an alternative to river dredging is not sustainable and has its own negative impacts. Every product we need or enjoy has its negative impacts on the environment. The issue is selecting the most practical and least environmentally damaging alternative. It is not simply whether to mine sand in the river OR on land. Since 1992, the Kansas River bed has been extensively monitored and surveyed to control degradation and confirm that the current level of river dredging is sustainable and together in combination with flood plain pit mines can meet the demand for building aggregate.

Dredging at the correct level and the correct location is not going to result in additional negative impacts and is a sustainable source of aggregate at the current low levels of river dredging. River sand dredging at the current low levels is for the greater good as it will reduce the amount of land loss from flood plain (pit) dredging over the long term. Kansas River dredging has already been addressed and curtailed adequately beginning back in 1990.

Thank you for the opportunity to comment and also provide information to the public about Kansas River dredging – a highly restricted and regulated commercial activity that seeks to provide the public the sand it demands for infrastructure and other building products in the least environmentally damaging and most sustainable methods.

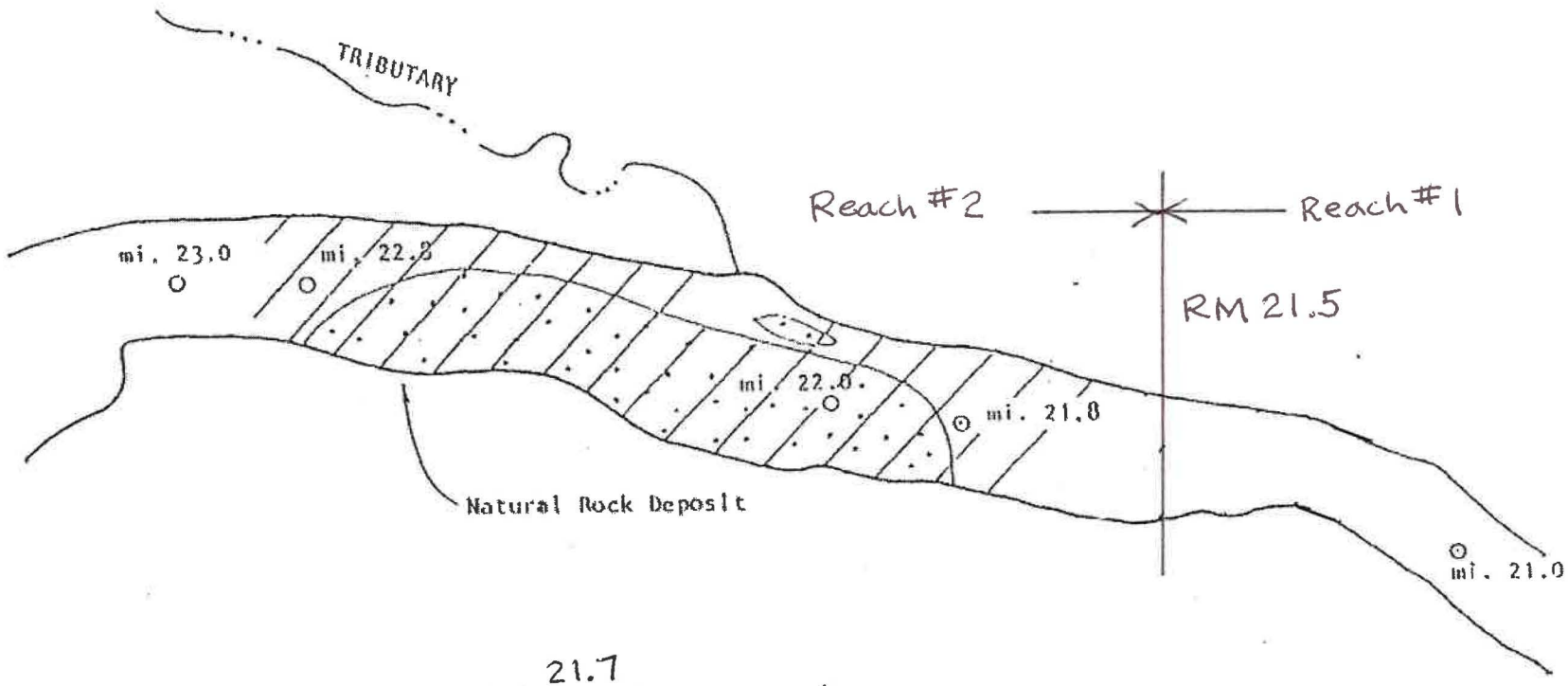
Sincerely yours,

Michael R. Odell

Holliday Sand & Gravel Company, LLC
Mike Odell – Vice President, Operations

Enclosure: Exhibit 1

NATURAL ROCK DEPOSIT



River miles ~~21.1~~ 21.7 (approximately) to 22.9 (approximately) are closed to dredging.

SCALE
4" = 1 mi.
APPROXIMATE

FIGURE A-6

Exhibit 1

Kansas Riverkeeper®
Dawn Buehler

Education Director
Laura Calwell

Education Specialist
Kate Delehunt

2016 Board of Directors

Executive Board
Mike Rawitch, President
Mark Dugan, Vice President
Mike Scherrer, Treasurer
Lisa Grossman, Secretary

Members at Large
Amy Burgin
Steve Byrn
Mike Calwell
Jack Collie
Steve Cringan
Dennis Dinwiddie
Sarah Hill-Nelson
Heidi Mehl
Sarah Morse
Marcia Rozell
Erik Wolf

Friends of the Kaw
P.O. Box 1612
Lawrence, KS 66044
785-312-7200

Report River Pollution:
1-866-RIV-KEEP

Email:
Riverkeeper@KansasRiver.org

Website:
Http://KansasRiver.org

Mr. Brian Donahue
Regulatory Project Manager
U.S. Army Corps of Engineers
Kansas City Regulatory Office
601 East 12th Street, Room 402
Kansas City, Missouri 64106-2896
816-389-3703
brian.t.donahue@usace.army.mil

December 10, 2016

Re: Public Comment for Draft Environmental Impact Statement for Kansas River Commercial Dredging

Permits for:
Kaw Valley Companies, Inc.
Holliday Sand & Gravel Company
Master's Dredging
Builder's Choice Aggregates, Inc.
LLB, LLC

Dear Mr. Donahue and U.S. Army Corps of Engineers (USACE):

Please accept the following comments regarding the Draft Environmental Impact Statement (EIS) for Kansas River Commercial Dredging. I am writing as a board member for Friends of the Kaw, a nonprofit environmental and conservation group whose mission is to protect and preserve the Kansas River (known locally as the Kaw) for future generations. I am also a PhD candidate finishing my degree in Fluvial Geomorphology at Kansas State University.

I would like to commend the U.S. Army Corps of Engineers Kansas City Regulatory Office for commissioning this report and taking a comprehensive look at the impacts of dredging on the Kansas River. I appreciate the fact that you considered issues like climate change and potential environmental justice

issues in addition to impacts on geomorphology, infrastructure, and terrestrial and aquatic habitat.

Regarding the section on the geomorphological impacts of dredging, I would like to draw attention to some shortcomings in the analysis. It was stated or inferred multiple times that the effects of dredging and associated bed degradation are localized to the dredged areas. I don't believe the literature supports the assumption that the effects of bed degradation are localized. Numerous studies demonstrate the relationship between bed degradation, head-cutting, channel widening, and threats to infrastructure. For example, G. Mathias Kondolf's 1997 article "Hungry Water: Effects of Dams and Gravel Mining on River Channels" documents the process of incision and knick point migration caused by the dredging of bed sediments from fluvial systems, and includes a number of observations of the impacts of this process.

Fluvial systems are very dynamic and, as stated in the EIS, sand is a very easily mobilized material. The literature suggests that the effects of a perturbation causing a knick point will migrate both upstream and downstream until a hard control point is reached (Juracek, 2002). This migration can be expected to cause the channel to incise within reaches with levees or other bank hardening (Wang et al., 2014, pg. 58). If the incision knick-point occurs in a reach without bank hardening, we would expect to see mass failure of banks and channel widening until it reaches a new equilibrium (Simon & Hupp, 1986). While it is true there are other factors contributing to channel instability (land use change, reservoir releases), it would be disingenuous to discount the effects of large holes carved into the bed of a flowing river. According to measurements taken on the Kansas River with an acoustic Doppler current profiler, dredge holes may be 30-40 feet deep, compared with an average river depth of 3-5 feet (Swenson, *manuscript in preparation*). The river will indeed fill in the dredge hole, but the material filling it must come from somewhere, typically upstream bed and banks.

Twice the draft EIS acknowledges a 2009 report published by Fischer et al., stating "after dredging operations were halted at a dredge site located upstream of the town of Edwardsville, the dredge hole completely filled with sediment within a month" (pages 3.2 – 33 & 3.2 – 41). However, the draft EIS omits the explanation in the very same paragraph of the report that "the sediment that fills in abandoned dredge holes is most likely derived from headcutting and bank erosion upriver (Kanehl and Lyons 1992; Kondolf 1997), causing degradation upriver to continue after dredging operations have ceased and the dredged reach has recovered" (Fischer et al., 2009). Whether intentional omission or accidental oversight, this gives the impression of cherry-picking information to support a desired conclusion, which erodes faith in the impartiality of the overall report. Elsewhere in the report, the authors seem to acknowledge the connection between aggrading dredge holes and upstream sediments (ie. "Sediment from upstream is replacing the dredged sediments," page 3.2 – 37).

Although the EIS includes a brief section on channel widening, the connection between degradation and bank erosion/channel widening is not fully elucidated. The authors acknowledge

the connection between degradation and mass wasting, but then suggest that "bed degradation also reduces the frequency of inundation of point bars, which accelerates the establishment of stabilizing vegetation." Bed degradation may reduce the frequency of **overbank** inundation, but point bars form and reform at channel level. In fact, an argument can be made that bed degradation eliminates point bars until the channel widens and reestablishes equilibrium (see: Simon & Hupp's channel evolution model, 1986). I am unaware of any literature supporting the assertion that degradation accelerates establishment of stabilizing vegetation within the channel.

Given these oversights, I would like to request a revision of the sections on fluvial geomorphology and channel widening to better explore the connection between bed degradation, headcutting, and bank erosion/channel widening beyond the dredged reaches, based on current literature. Bank erosion and channel widening have potential economic impacts. They may accelerate the loss of valuable farmland and may threaten infrastructure in and near the channel. This is acknowledged briefly in the EIS: "Indirect impacts to river geomorphology could develop over a relatively long period and could result in tertiary impacts to bank protection structures, pipelines, bridges and other infrastructure as a consequence of riverbed degradation and riverbank failure" (page 3.2 – 34). Because of the potential public costs, this topic warrants more rigorous study and greater attention in the EIS.

Friends of the Kaw strongly prefers the No Action Alternative to cease dredging on the Kansas River. However, if the USACE allows permits to be issued, we recommend that the cumulative annual limit be capped at the current extraction levels of 509,145 tons and all current permits should be given 5-year non-renewable permits to allow for a transition to appropriately sited pit mines in the Kansas River Valley. The draft EIS notes that "from 1999 to 2009, dredging quantities decreased from 2 million tons per year to 1 million tons per year and the stage of 5,000 cfs remained essentially constant. The recent rates and locations of dredging have not caused stage degradation at the DeSoto gage (page 3.2-21). Elsewhere the draft EIS finds that "the overall degradational trend of the river has slowed or stopped" (page 3.2 – 36) and that "dredging amounts are significantly less than they have been in the past" (page 3.2 – 37). The EIS also states that "the extraction of higher quantities of materials per year by the Dredgers could accelerate the rate of riverbed degradation and could have a potential to significantly impact river geomorphology if uncontrolled riverbed degradation were allowed to occur" (page 3.2 – 38). These findings support a reduced-limit alternative to mitigate riverbed degradation and severe impacts to river geomorphology.

We also request that two new permits be denied. As noted above, the destabilizing impacts of dredging do not remain localized and can proliferate both upstream and downstream of the dredge site until a hard control point is reached. The draft EIS acknowledges that "the (Topeka) weir serves as a grade control structure protecting downstream erosion from migrating upstream" (page 3.2-17). Therefore we would strongly urge the USACE to deny any new dredging upstream from the Topeka weir, to protect the upstream reaches from these impacts.

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Finally, I continue to urge the USACE to require dredging companies to restore riparian vegetation when they are no longer dredging a reach, as a condition of dredging permits. Riparian trees and other vegetation are routinely removed to provide easier access between the sand processing plant and the in-channel dredge. The degradation of the riparian area in dredged areas is obvious, with sandy banks completely exposed and devoid of vegetation. Especially in light of the connections between bed degradation and bank erosion discussed above, it makes sense that the dredging companies should restore the stabilizing vegetation on the bank once they are no longer dredging a particular reach.

In summary:

1. Please update and improve the evaluation of fluvial geomorphology impacts to include the connection between bed degradation and bank erosion/channel widening beyond the localized impacts of the dredged reach.
2. FOK strongly urges the USACE to deny all permits, and end sand and gravel dredging on the Kansas River. However, we would be amenable to allowing most current permits a five-year window to allow for the transition to appropriately sited pit mines in the Kansas River Valley.
3. If permits are granted, we recommend the Reduced Limit Alternative with the cumulative annual limit be capped at the current extraction levels of 509,145 tons.
4. We request that new permits be denied, especially any upstream from the Topeka weir, which acts as a grade control to protect the upper reaches of the river.
5. We strongly urge USACE to require restoration of stabilizing riparian vegetation at retired dredge reaches.

Thank you for the opportunity to submit this public comment, and thank you for your continuing efforts to meet the needs of all stakeholders in use of this valuable public resource.

Sincerely,

Heidi Mehl
Friends of the Kaw
PhD Candidate
Kansas State University

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Kansas Aggregate Producers' Association
800 SW Jackson St. Suite 1408
Topeka, KS 66612
Tel: (785) 235-1188
Fax: (785) 235-2544
Web:

3. KAPA understands that a comment will be submitted from the Kansas Department of Health and Environment (KDHE) regarding the proposed changes to the Regulatory Plan as it relates to dredged return water. KAPA wholeheartedly echos concerns previously voiced by KDHE that the proposed changes may be contrary to existing law and that there is no evidence of problems with dredged return water covered by the language in the current Regulatory Plan. KAPA also understands there is some belief that the proposed changes were due to a miscommunication amongst those involved with the EIS and Regulatory Plan development. If so, those proposed changes should be revisited accordingly.

KAPA members look forward to the conclusion of this EIS process. Let's not forget that they have willingly contributed their own money to pay for development of the EIS. It is a given that just going through the EIS process and awaiting the ROD creates uncertainties for all the interested parties. KAPA is hopeful that the post-ROD landscape is one that continues the history of fair and equitable treatment of the various economic, social and environmental drivers that can then coexist successfully on the Kansas River.

Sincerely,

Jerry Younger, P.E.
Managing Director

Master's Dredging Comments on

Kansas River Commercial Dredging

Draft Environmental Impact Statement (DEIS)

Because the Corps of Engineers (COE) failed to give CH2M the most important issues to study for this EIS, then this draft EIS is deeply flawed both in its evaluations and in some of the most critical environmental issues concerning commercial dredging on the Kansas River. These serious issues have been raised numerous times by Master's Dredging Company (also known as Kaw Sand Company in the original river permits) in numerous meetings with the COE beginning in the early 1980s until the present. This paper will elaborate on these issues which largely have to do with the following: (1) the engineering analyzes of the cross sections, (2) the 1994 baseline river bed profile, and (3) the determination of ordinary high water elevations use in the cross sectional analyzes. The Kansas City COE branch has not applied the USACE's own River Analysis System (HEC-RAS programs) and legally recognized ordinary high water elevations in administrating the 1990 Regulatory Plan for commercial dredging on the Kansas River.

"Success or failure of the Regulatory Plan is primarily measured by the amount of bed degradation or aggradation that has occurred since the implementation of the Plan, and by the USACE's commitment to enforce the restrictions presented in the Plan." This is quoting from the Summary of Section 3.2 on page 3.2-33 of the DEIS and should have been the critical, if not the primary, purpose of the EIS. However, in spite of Master's Dredging's insistence, the COE refused to include in the EIS: (1) the validity of the 1994 bed baseline profile, (2) the legal use of the ordinary high water mark for the bed grade elevation analyzes, (3) the method of determining bed elevations using the cross-section survey data, and (4) what changes were made in the bed elevation methodology between 1994 and the present. The principal requirement of the Regulatory Plan was (1) to obtain cross-section surveys every 2 years after 1994 to determine the bed grade elevations and (2) to use the cross-section survey data to determine average bed elevations for granting dredge permits based on the maximum 2 foot degradation in each 5 mile section. "The Regulatory Plans established 2 feet as the maximum allowable reduction in bed elevations before secondary impacts would exceed acceptable levels" (op.cit. Summary, 3.2). The primary purpose of the Regulatory Plan was to determine (1) an accurate bed elevation base line profile for the whole river, (2) the bed elevation of each cross section on a biannual basis, and (3) the permitting of dredging in each section where there was less than 2 feet of degradation.

<u>Bed Elevation Baseline Profile of 1992</u>

Early in the original EIS done before the 1990 Regulatory Plan, "Simons, Li, and Associates (1984) (Simons and Li) concluded that dredging was the primary cause of bed degradation on the Kansas River from River Mile 9.6 to 22…" (DEIS, p. 3.2-34). As a basic principle of hydrology, a river naturally maintains a constant bed elevation decline as it goes downstream. With gravity giving river water energy as it goes downstream, unless there is a dam, a river must dissipate that energy uniformly at a constant rate per mile, maintaining a uniform loss of bed elevation per river mile. Otherwise, the rivers would continue to gain velocity as they moved downstream, exiting into the Gulf of Mexico at hundreds of miles per hour. This constant, uniform loss of river bed elevation gives a straight-line bed elevation declining profile over the length of the river. Simons and Li as hydrologists saw that the extreme removal of bed material by dredging at Bonner Springs over the past years had created an 8-12 foot hole in the Kansas River bed elevations at Bonner Springs. The amount of bed material extracted at Bonner Springs far exceeded the amount that the Kansas River was bringing in during these past years. Unlimited dredging until 1990 at Bonner Springs created a deep hole in the bed elevation, easily seen as a large deviation on the Kansas River from the normal straight line profile of a natural river bed. That observation lead Simons and Li to conclude that "dredging was the primary cause of bed degradation on the Kansas River from River Mile 9.6 to 22.."

Master's Dredging/Kaw Sand strenuously objected to the inclusion of this deep hole bed elevation at Bonner Springs in the 1994 bed elevation baseline. We stated that the Kansas River would move its bed load of sand and gravel from upstream to fill in this deep dredged bed level hole in Bonner Springs in order to restore hydrologically its natural straight line, constantly declining bed elevation profile. This action of the Kansas River would aggrade the bed elevations in Bonner Springs (River miles 10-21) and degrade the bed elevations in the river sections above Bonner Springs (River miles 22-51), even in the absence of dredging operations. We explained this very clearly to the COE at the beginning of the 1990 Regulatory Plan that the Kansas River will take bed material from the upstream bed toward Lawrence (Bowersock Dam fixes the bed elevation in Lawrence). The Kansas River would lower the bed elevations in the Bonner Springs-Lawrence (River Mile 22-51.8) stretches of the river where Master's Dredging/Kaw Sand had four dredging permits. However, the COE refused to use a straight line of declining Kansas River bed elevation profile as its baseline for the 1990 Regulatory Plan. History has made us look like prophets with the bed aggradation in the dredged Bonner Springs stretch and bed degradation in the largely undredged upstream stretches, although the bed elevation downstream aggradations and upstream degradations that followed after 1990 are based on basic hydrology and physics.

In spite of the continued heaviest dredging on the Kansas River at Bonner Springs after 1990, the deep hole bed has aggraded at Bonner Springs (River Miles 15-22) and the light to non-existent dredging upstream from River Miles 22-51 has seen bed degradation

of more than the 2 foot regulation of the 1990 Regulatory Plan due to transferring the bed material from the upstream stretch into the Bonner Spring deep bed hole. Master's Dredging/Kaw Sand lost all of our permits because of the failure of the COE to use simple hydrology and Simons and Li conclusions to establish their Regulatory Plan bed elevations baseline profile. There should have been no 1990 dredging permits in the Bonner Springs area until the Kansas River had restored the bed elevations there to their natural profile levels.

This failure to study the initial 1994 bed elevation baseline is a grave oversight of this DEIS. This aggradation of bed elevation in the most heavily dredged area of the Kansas River at Bonner Springs (River Miles 14.9-19.9) and the most serious bed degradation in the non-dredged section (River Mile 34.5-39.5) of the Kansas River (See Table 6, p. 3.2.24) illustrates the fallacy of not using basic hydrology to establish the initial bed elevation baseline profile. This can be seen vividly on the graph in Figure 12, p. 3.2.27 which shows the aggradation of bed elevations in the Bonner Springs stretch and the bed elevation degradation of the Kansas River upstream from Bonner Springs centered on river miles 34-35 where no dredging took place. The statistical analyses used in the DEIS to refute the Simons and Li conclusion that concentrated dredging causes bed degradation are all based on the deeply flawed 1994 bed elevation baseline profile with its deep bed elevation hole at Bonner Springs. Instead of using that flawed 1994 baseline, the DEIS should have reexamined the flawed 1994 bed elevation baseline profile using good principles of hydrology which would have verified Simons and Li's conclusion.

<u>Straightforward Method of Bed Elevations</u>

From the beginning of the 1990 Regulatory Plan Landplan Engineering has supplied the survey cross section data for determining the average bed elevations. Using bench mark monuments on opposite banks at designated river mile markers of the Kansas River, cross sectional elevations were determined across the river from one monument to the monument on the opposite side of the river. The initial cross section elevations were determined in 1994 as the baseline averages for comparison with subsequent years. Since the cross sectional elevations are based on elevations above sea level, it is very straightforward to simple average these elevations for each cross section from monument to monument or from the tops of the river banks which is included in the survey data. If there is an unequal distance between the survey elevation points across the river, then bed elevations can be interpolated between survey points to give a more uniform bed elevation average.

Contrary to engineering standards of determining river bed elevations by using survey elevations from the top of the river bank to the top of the opposite river bank and a straightforward river bed analysis, the COE used different methods since the implementation of the 1990 Regulatory Plan with non-legal ordinary high water mark

elevations and hydrologically flawed cross sectional areas to determine river bed elevations. The COE's use of ordinary high water marks which are not legal in courts, in FEMA flood plain regulations, nor in the COE's own HEC-RAS river flow analysis leads to hydrologically false cross sectional areas and to deeply flawed bed elevations analyzes. This Draft EIS fails to examine this flawed COE's bed elevations analysis methodology which is vital to the whole intent of the Regulatory Plan. This flawed analysis methodology also resulted in river widths in some sections dramatically different in subsequent years from the 1994 baseline river widths in spite of the Kansas River usually not changing its distance between the tops of its banks. A straightforward averaging of the surveyed elevation data to determine average bed elevations avoids all of these legal and hydrological flaws which the convoluted analytical COE methodology creates. The following sections delineate some of the flaws of the COE bed elevations analytical methodology. These sections include explanations of the flawed use of arbitrary, rather than legal and hydrologically correct, ordinary high water marks and of false cross sectional areas to determine average bed elevations.

<u>Ordinary High Water Mark Elevations</u>

Master's Dredging/Kaw Sand did a number of cross section surveys for the State of Kansas and the COE beginning in the early 1980s for its Kansas River permits, particularly in DeSoto, centered on river miles 26-27. These engineering surveys were done using COE bench marks along the Kansas River east of DeSoto. These benchmarks on opposite sides of the river are setback from the top bank of the Kansas River. In most benchmark locations the tops of the river banks are the legal ordinary high water marks and therefore included in the survey data. Our cross sections and cross sections areas were determined from the legal ordinary high water marks by the surveyors and engineering analysts, especially for compliance with flood plain regulations for the State of Kansas.

These ordinary high water marks determine the legal property boundaries along the Kansas River between the land owners and the State of Kansas. The State of Kansas owns the Kansas River up to the ordinary high water mark which is generally the top of the Kansas River bank. If the Kansas River changes its course, then the laws of accretion apply, based on the ordinary high water marks where the Kansas River has changed course. If a river course change leaves an island above the legal ordinary high water mark, then the land owner retains ownership of the land that has become an island. If the river course cuts, leaving no land above the legal ordinary high water during the river course change, then the land owner on the opposite bank gets any subsequently accreted land that comes above the legal ordinary high water mark. The State of Kansas owns any land below the legal ordinary high water mark when the Kansas River changes course. The legal ordinary high water mark has legal status in the courts on the Kansas River for private/State ownership issues and for the laws of accretion. The flawed ordinary high water mark used in the COE analysis methodology has many parts of the Kansas River

designated as islands which are not islands because they are below the legal high water mark. In addition, FEMA uses the same legal ordinary high water mark elevations, generally very close to the top of the Kansas River banks, to determine legally flood plains and flood plain regulations.

In addition, the Hydrologic Engineering Center at Corps of Engineers' Waterways and Experimental Station (WES) in Vicksburg, Mississippi, has developed the Hydrologic Engineering Center-River Analysis System (HEC-RAS). The COE's HEC-RAS is universally used by governmental agencies as well as by engineering companies to determine flow analyses, especially for flood plains and legal ordinary high water marks. The designation of the ordinary high water marks by COE's HEC-RAS programs at river mile locations on the Kansas River are essential for analyzing river bed elevations from cross section surveys for the 1990 Kansas River Regulatory Plan for commercial dredging. In past discussions with the Kansas City COE it is unclear when and where the COE got the ordinary high water marks on the Kansas River used in its Regulatory Plan cross sectional analyses. The Kansas City COE's "ordinary high mark elevations" are substantially and inconsistently below the HEC-RAS and legal ordinary high water marks, as well as FEMA's ordinary high water marks. The use of the COE's HEC-RAS programs to determine on the Kansas River the ordinary high water marks at each river mile and cross section survey should be used for the determination of the river bed elevations for the Regulatory Plan. A failure to use these legal/HEC-RAS high water mark elevations for the cross-section surveys and subsequent bed elevation analyses invalidates the COE's analysis of bed elevations for the Regulatory Plan.

It appears from several discussions with COE officials, analysts, and Landplan, the river surveyors for the Regulatory Plan, that the ordinary high water marks used by the Kansas City COE for the Regulatory Plan are arbitrary, not based on either legal standards or HEC-RAS programs. Flow on the Kansas River is expressed by the formula, Q = v x A, where Q is the volume flow in cubic feet per second, v is the average velocity of the current in feet per second, and A is the river cross sectional area in square feet. At high flows of the Kansas River, the velocity of the river does not vary greatly, much like a big freight train, because it requires an enormous amount of energy to change the velocity and the kinetic energy of the water which is proportional to the square of the velocity, except in the case of dam which can dissipate the kinetic energy of the river. Therefore, according to the formula, Q = v x A, with a constant high flow (Q) and a constant velocity (v) the cross sections of the river (A) will be the same along large sections of the river at any given time of high flows. Since the Kansas River is a gaining river, the flow and cross sectional areas will increase slowly over larger downstream stretches. But at ordinary high flows, adjacent cross sections in the same Kansas River will have nearly the same cross sectional areas.

There are several basic principles of river hydrology so that river courses without dams are determined by ordinary high river flows or floods (higher than ordinary high

river flows): (1) river cross sectional areas are relatively constant in adjacent river sections, (2) river velocities and flows are relatively constant, (3) rivers naturally maintain uniform, declining bed profiles, and (4) rivers want to maintain the same number of river miles over time. Since gravity gives the river water its kinetic energy and rivers lose this gravity-energy by friction (turbulence and boundary gradients along its banks and bed), then the energy gain/loss equilibrium of the river's water mass results in the above river's hydrological principles. The river water has massive inertia that: (1) does not change velocity or cross sectional area and (2) maintains a uniform, declining bed profile and constant river length in order to dissipate uniformly the kinetic energy that it gains from gravity. The basic hydrological principles are very evident at ordinary high flows: (1) river velocities are constant, (2) ordinary high water marks are consistently near the tops of the river bank, (3) ordinary high water marks (river surface elevations) are uniformly declining downstream, and (4) the river maintains a constant length over time.

A simple evaluation of the cross sections used by COE for their bed elevation analyses shows that the COE's cross sectional areas at some cross sections are 5 times larger than other cross sectional areas in the nearby sections of the Kansas River. As an example, in the COE analysis of the 1994 baseline survey data, the cross sectional area at river mile 46.7 is approximately 2,780 square feet compared to 11,170 square feet at river mile 42.0. This means that the Kansas River's average velocity would be 5 times faster in one cross sectional area (river mile 46.7) than a nearby cross sectional area (river mile 42.0). Without a river dam, it is impossible for the Kansas River to change its high flow velocities by accelerating or decelerating its huge mass of water (requiring huge inputs of kinetic energy) from one cross section to another nearby cross section. There are no significant river dams between Bowersock Dam in Lawrence and Water One's coffer dam near I-435 far below Bonner Springs. This 500% difference in the cross-sectional areas of adjacent Kansas River stretches used by the COE for its bed elevation analyses between Lawrence and Bonner Springs (river miles 14-51) is simply impossible and wrong from basic hydrology. The COE analyst should know immediately that the COE's "ordinary high water marks" elevations are wrong because they give grossly different cross sectional areas in nearby sections of the Kansas River. By contrast, the HEC-RAS and FEMA programs and judicial, legal ordinary high water marks give ordinary high water elevations which give nearly constant cross sectional areas of adjoining river stretches.

The cross sectional area of the Kansas River is determined by the equation, A = W x D, where A is the cross sectional area, W is the width of the river at the ordinary high water mark, and D is the average depth of river (ordinary high water mark elevation minus the average bed elevation). It appears that the Kansas City COE was determining bed elevations by (1) determining the bed elevations from the Landplan river surveys, (2) using their arbitrary "ordinary high water mark" elevations to determine the river depth and the river width, excluding any islands or aggraded sand bars above their "ordinary

high water mark" elevation. The "high water mark elevations" used by the Kansas City COE for their Regulatory Plan analysis of bed elevations are all considerably and inconsistently below the legal ordinary high water mark elevations. Choosing a water mark elevation less than the ordinary high water elevation of HEC-RAS or FEMA has deep flaws in determining Kansas River bed elevations.

The COE used a high water elevation below the legal ordinary high water mark elevation; consequently (a) excluding aggraded sections which are below the legal ordinary high water mark elevation such as aggraded sand bars and "islands," and (b) reducing the width of the river bed from the 1994 baseline cross-sections to exclude the aggraded sections which are below the legal ordinary high water marks. The COE's use of a low water elevation (much less than the legal and engineering ordinary high water mark elevations) at each cross section excluded large aggraded sections of the river bed and decreased the river width for their calculations, excluding the river bed elevations which aggraded above their low water mark elevation. The 1994 baseline engineering survey done by Landplan in the Kansas River Miles 26-51.8 section gave the river bed elevations between the legal and engineering ordinary high water elevations on both the tops of the banks of the Kansas River.

Master's Dredging/Kaw Sand understood in 1990 from meetings with the COE and the language of the Regulatory Plan that the bed elevations of each cross section would be determined in the same straight forward method used previously on the Kansas River. The 1994 river bed survey elevations, taken across the river from ordinary high water on one bank to ordinary high water on the opposite bank (top of bank to top of bank) would be averaged to determine the 1994 bed elevation for each cross section. Then, using the successive biannual Kansas River bed surveys, the bed elevations would be averaged from ordinary high water mark to ordinary high water mark to obtain the average bed elevation biannually for each cross section. The 1994 Kansas River bed elevations then can be used to compare to the successive 2 year river bed surveys to determine degradation or aggradation in each cross section.

Instead, the COE analysis used a river water elevation much lower than the legal ordinary high water elevations; thereby, (1) excluding aggraded river bed sections from their calculations which are well below the legal/engineering ordinary high water mark elevation and (2) reducing or increasing the river width in their calculations by excluding aggraded sections which were below the legal/engineering ordinary high water mark elevations. Using the reduced river width and excluding aggraded bed elevations, the COE ended up with bed degradations in large sections of the river that had little or no actual degradation and had none or little dredging. For instance, using this skewed method based on false high river water elevations the COE analysis showed at river miles 47-48 (1) a decrease in river width from 1100 feet in 1994 to 550 feet in 2011 and (2) a sudden drop of river bed elevation of more than 1 feet in two years. None of these false COE calculations

would have been obtained if the 1994 Kansas River survey bed elevations from sea level below the legal/engineering ordinary high water mark had been simply used to compare for the successive years' surveys bed elevation from sea level to determine bed aggradation or degradation.

Change in the COE Analytic Methods for Kansas River Bed Elevations

At some time between 1994 and 2013, the COE changed its method of determining Kansas River bed elevations. As with the mystery surrounding the time and the method of the COE's arbitrary determination of its "ordinary high water mark elevations," discussions concerning the original methodology of determining bed elevations and the change to the present method seemed to be shrouded in mystery. The COE could not articulate to Master's Dredging/Kaw Sand its original method of determining bed elevations, what changes took place, and when these changes took place. It was Master's Dredging/Kaw Sand's understanding in 1990 that subsequent year bed elevations would be simply determined by comparing the subsequent survey bed elevations to the 1994 survey bed elevations between the legal/engineering ordinary high water elevations on opposite banks of the cross section. River widths would only change from the 1994 survey if the ordinary high water mark elevations, near the top of the river bank, changed. It took a lot of explaining on the part of the COE to explain their Kansas River bed analysis using their low river water elevation and the sometimes dramatically decreased/increased river width, excluding the large sections of aggraded river bed which are part of the river bed belonging to the State of Kansas. After investing many millions of dollars in river sand plants, we started losing our river dredging permits in sections of the river which had no noticeable degradation and no excessive dredging, we started to inquire into the COE methodology of determining river bed elevations. It is only in the last several years that we have been able through our own engineering analyzes of the survey data (1994-2011) to understand the COE's bed analysis methodology and its deep flaws.

Restoration of Dredging Permits

Under the 1990 Regulatory Plan, we had river dredging permits at Lawrence (about river miles 47-48), at Eudora (about river mile 42), west of DeSoto (about river miles 34-35), and east of DeSoto (about river miles 26-27). Because of the 750,000 tons per 15 mile stretch Regulatory Plan rule, we never were able to use the permit west of Desoto (at river miles 34-35 where the worst Kansas River bed degradation took place with little to no dredging either upstream or downstream). We have invested millions of dollars in land and equipment for these permits. Also, we had invested a considerable amount of time and expense in getting federal, state, and local permits for these sites. Without our full or even partial understanding of the COE's analysis of bed elevations, we began to lose all of our permits (west of DeSoto, east of DeSoto, Eudora, and Lawrence). Our dredging permit at DeSoto (river mile 26-27.5) was put in abeyance in 2003. However, on the provision of the

Regulatory Plan and promises from COE regulators that dredging permits could be restored if the bed elevations aggraded above the 2 foot maximum degradation we continued to pay well over one hundred thousand dollars for cross section surveys and mandated COE studies.

In 2009 our dredging section at DeSoto (river mile 26-27) aggraded above the 2 foot maximum but the COE refused to restore our permit saying the aggradation did not show sufficient aggradation but would consider it with the next cross section survey. Consequently, we continued to pay for the biannual cross sections, but even with the 2011 survey showing aggradation the COE refused to reissue our dredging permits saying that there is not a procedure in the Regulatory Plan to restore a dredging permit. We pointed out that there is not a procedure in the Regulatory Plan to put a dredging permit in abeyance or to terminate a permit. It only took a letter from the COE to put a dredging permit in abeyance. In like manner, it should only take a letter from the COE to restore a permit in the same way as putting a dredging permit in abeyance. Shockingly, we found recently that the COE terminated our DeSoto permit (river miles 26-27.5) in 2013 without our knowledge or notice from the COE even though it was in full compliance with less than the 2 foot degradation and with the biannual cross section surveys of the Regulatory Plan.

Further, under the 1990 Regulatory Plan under the COE has never restored a dredging permit even if the dredger such as ourselves has a dredge permit area with less than 2 feet of degradation, has paid continuously for cross section surveys, and has paid for an EA and now part of this EIS in hopes of having a dredging permit restored. It appears that the restoration of dredging for a permit is delineated in Appendix A of this DEIS. There was a gross injustice done by the COE in not restoring our DeSoto permit under the regulations of the 1990 Regulatory Plan and by the COE using deeply flawed analytical methods for determining bed elevations for the Regulatory Plan.

It would appear that the COE had and has no intentions of:

(1) Investigating in this EIS its use of a false ordinary high water mark elevations for its determination of Kansas River bed elevations

(2) Investigating its analytical method in this EIS for determining Kansas River bed elevations

Further, it would appear that the COE intends from the EIS to reduce the total annual extraction from the Kansas River to 1,670,000 tons which given 1,900,000 tons in dredging applications might possibly reduce or exclude the 300,000 tons requested by Master's Dredging, the only former dredger who is requesting a restored permit. This obvious from the revised Table 4 in the EIS which changes part of Master's Dredging requested DeSoto permit at more than 2 feet of degradation.

Master's Dredging has put forward its objections as explained above concerning the contents of the DEIS and its serious objections to the COE's compliance for many years with the Regulatory Plan for Commercial Dredging on the Kansas River.

4838-7718-6621, v. 1

Kansas Riverkeeper®
Dawn Buehler

Education Director
Laura Calwell

Education Specialist
Kate Delehunt

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Friends of the Kaw
P.O. Box 1612
Lawrence, KS 66044
785-312-7200

Report River Pollution:
1-866-RIV-KEEP

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Mr. Brian Donahue
U.S. Army Corp of Engineers
Kansas City District, OD-R
601 E 12th St. Suite 402
Kansas City, MO 64106-2824

December 7, 2016

Dear Mr. Donahue,

Please accept this as my official public comment on the Kansas River Commercial Dredging public notice issued October 21, 2016, as well as a request for a public hearing on this matter.

I am asking the USACE to deny all nine permits submitted by six companies and end all in-river sand and gravel dredging on the Kansas River. I know you are well aware of the arguments against dredging in the Kaw, including research that's shown significant damage to the streambed and banks, water quality, wildlife and habitat, and loss of sandbars themselves. I understand that the demand for sand and gravel will not end and no solution is perfect, but I feel that at this time, operations need to be moved to appropriately- sited pit mines, while we work toward better alternatives.

As an artist whose primary work focuses on the Kansas River and as an avid paddler and outdoors-person, I've studied this river from multiple perspectives over the last two decades. I've paddled every mile of the river, especially the reach from Topeka to Kansas City. I've flown over it with local pilots a dozen times to document it photographically and to study it from above, and the dynamics of sandbars in the least-altered reaches are incredible. I've consulted with scientists of many disciplines in researching for my work, and I've learned a great deal from my work with Friends of the Kaw and science consultants over the years. It's a unique river that deserves to be protected and preserved for future generations, and for its own sake.

I am very familiar with the dredging in these areas and its effects. I've felt the deep dredged-out holes when I've paddled over them, seen riverbanks falling in upstream from them and watched cherished sandbars disappear entirely, as the ones behind the island at Mud Creek. It seems indisputable that dredging in this area has dramatically shifted the dynamic of the river so that after some high-water events, the channel has now shifted to the south and north of the island is silting in as to be unnavigable. The industrialized, rock-lined ditch devoid of sandbars that the river becomes downstream of Edwardsville is not what we want for the rest of the Kaw.

One of my biggest concerns for safety is the proposed Master's Dredging site near Cedar

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Friends of the Kaw
P.O. Box 1612
Lawrence, KS 66044
785-312-7200

Report River Pollution:
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Riverkeeper@KansasRiver.org

Website:
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which is near a frequently used access ramp for Friends of the Kaw's float groups, being the end point for younger and more novice groups with the easier 5-mile stretch from Desoto and short shuttle drive. I've been around the various cables and hoses unintentionally, that are sometimes nearly invisible until you are right on them and it's terrifying and dangerous. The continuous roar, lights and dredge equipment itself, is an unpleasant presence felt for a mile in either direction.

I'm making my plea as someone who believes that the Kansas River is truly the treasure of our state, even beyond the fact that it's 800,000 Kansans source of drinking water! In a state with almost no public land, the 173 miles of the Kansas River are invaluable for adventure, recreation, learning, and inspiration. It's beauty, its importance as a major wildlife and recreational corridor, its designation of National Water Trail, come to mind. It's the perfect blend of wildness and accessibility for paddlers and anglers, and groups like Friends of the Kaw for guiding floats and educating the community about its importance. The highlight of any river experience is exploring the sandbars, and I'm always amazed by the wealth of fossils, ancient artifacts, and evidence of wildlife. It sickens me to imagine all of the centuries—thousands of years old Native American artifacts being sucked up into dredging hoses, never to be seen again. We need to do everything possible to preserve as much of the natural integrity of this waterway as possible, and even one dredge undermines it in irreversibly.

Thank you for hearing my concerns,

Sincerely,

Lisa Grossman
825 Maine St.
Lawrence, KS 66044

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November 23, 2016

Jerry Younger, P.E.
Managing Director
KAPA-KRMCA
800 SW Jackson - #1408
Topeka, KS 66612

RE: Comments, Draft Environmental Impact Statement
Kansas River, Commercial Sand and Gravel Dredging

Dear Jerry,

The Revised Regulatory Plan for Commercial Dredging Activities on the Kansa River, Appendix A from the above referenced EIS Draft Statement includes several comments about "monumented control sites" (see page A-22). When this river monitoring program began in the early 1990's, placing physical monuments at all cross-section locations was the standard of our industry. These physical markings were necessary to accurately align our cross-sections (survey ranges). Each time we surveyed a cross-section, time was spent finding the iron bars used as monumentation, clearing a line-of-sight path between the monuments, traverse in benchmark control, and then, finally, the cross-section could be surveyed. On average, 20% of the monuments were lost, so a significant expenditure was used to re-establish the monuments before any survey work could be carried out.

When we shifted to using LIDAR to survey in the land portion of the cross-sections, the need to physically place iron bars to monument each cross-section went away. We have the virtual location of all cross-sections in our system and the northing and easting is included in our documentation.

My concern is the Regulatory Plan still refences the use of physical monuments and this could constitute a significant and unnecessary expenditure if the COE decides to enforce the "language" of the Plan. I suggest we request the Corps of Engineers (COE) to modify the text in both I. General Information and II. Control Sites (pg. A-22) of the Monitoring Program in the Regulatory Plan to acknowledge the use of the virtual monumentation that has already been established.

If further explanation is needed, please do not hesitate to call,

Sincerely,

Philip W. Struble, P.E.