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WRITTEN COMMENTS DRAFT REPORT LOWER MISSOURI RIVER BASIN FLOOD RISK AND RESILIENCY STUDY SYSTEM PLAN

MARCH 11, 2026

U.S. Army Corps of Engineers
Planning Branch
601 E. 12th Street
Kansas City, Missouri 64106

Thank you for the opportunity to provide the following comments on behalf of the Missouri Levee and Drainage District Association. Our Association consists of levee districts, drainage districts, associations, businesses and individuals affected by the Missouri River and its tributaries. We have members in Iowa, Kansas, Nebraska, Missouri, and outside the Missouri River basin who own land along the Missouri River and its tributaries. Recommendations found in the Draft Report could have disastrous impacts on most of our members.

Following the 2019 Missouri River Flood, governors from Iowa, Kansas, Nebraska, and Missouri met to discuss the flood's impact and how best to recover and, most importantly, work to prevent future flood events. Their goal was to find a way to "do things differently". The Lower Missouri River Basin Flood Risk and Resiliency Study, also referred to as "the System Plan", is the US Army Corps of Engineers' response to the states and a failed attempt to present a plan to do things differently to provide flood control along the Missouri River.

The lengthy report released by the Corps for public comment outlines another attempt to convert land along the river to fish and wildlife habitat and provide better protection for urban areas and critical infrastructure, while allowing the river to flow freely in rural areas, taking an estimated 147,000 acres or more of prime farmland out of production. The recommended plan not only abandons flood control in many areas but also promotes flooding of thousands of acres of prime farmland.

Following the Great Flood of 1993, Brigadier General Gerald E. Galloway and the Interagency Floodplain Management Review Committee released a report to the Administration Floodplain Management Task Force. The report, also known as the "Galloway Report", was titled "*A Blueprint for Change, Sharing the Challenge: Floodplain Management into the 21st Century*". The System Plan outlined in the Lower Missouri River Basin Flood Risk and Resiliency Study looks mysteriously and frighteningly like the Galloway Report. It appears that rather than thinking differently, the Corps has reverted to the same old recommendations found in the Galloway Report. In fact, the Corps could have saved the \$7 million spent on the 6-year study by changing the title and releasing the Galloway Report. In 1994, the Missouri Levee and Drainage District Association had great concerns with the Galloway Report. It has even more concerns with the recent system plan released for public comment. We are disappointed, frustrated, and

dumbfounded by the report and had higher hopes for a new approach. The USACE has moved backwards and proved they are stuck in their ways with no new vision or plan to think outside the box by proposing a new, yet old, version of the Galloway Report Plan.

Lower Missouri River Flood Risk and Resiliency Comprehensive Study & Integrated Programmatic Environmental Impact Statement, Page 19

“Federal Objectives considered include (1) seeking to maximize sustainable economic development; (2) seeking to avoid the unwise use of floodplains and flood-prone areas and minimizing adverse impacts and vulnerabilities in any case in which a floodplain or flood-prone area must be used; and (3) protecting and restoring the functions of natural systems and mitigating any unavoidable damage to natural ecosystems. Guiding Principles are what the federal government seeks to promote through federal investments in water resources now and into the foreseeable future. These Principles include healthy and resilient ecosystems; sustainable economic development; floodplains; public safety; socioeconomics; and a watershed approach.”

Flood control is missing from the objectives and principles used to develop the recommendations found in the report. Stakeholders along the Missouri River and its tributaries want better flood control. The draft report only mentions flood control in a passing reference to the Flood Control Act of 1944, and long-ago historical references to a time when flood control and agriculture were the focus and mission of the Federal Government, Bureau of Reclamation, and US Army Corps of Engineers. Clearly, flood control and the protection of farmland played no part as a goal or objective of this study.

Objective (1): seeking to maximize sustainable economic development

Agriculture is Missouri’s number one industry. It is the main driver of the state’s economy. If the US Army Corps of Engineers’ focus is on maximizing sustainable economic development, they should seek ways to protect farmland rather than flood the productive soils in the Missouri River floodplain.

100,000 acres of corn and soybeans in the Missouri River floodplain produces enough calories to feed 1,554,492.05 people every day for an entire year.¹ Soybeans and corn are important animal feeds too.² As populations continue to increase and land is taken out of production it is important to keep the most productive farmland in production.

Lower Missouri River Flood Risk and Resiliency Comprehensive Study & Integrated Programmatic Environmental Impact Statement, Page 151

“The vast majority of this area is dedicated to agricultural use (75.8%), and most of this (73.6%) is specifically used for cultivation of row crops such as corn and soybeans.”

Lower Missouri River Flood Risk and Resiliency Comprehensive Study & Integrated Programmatic Environmental Impact Statement, Table 4-10 Page 226

“While the System Plan would not dictate land use, USACE anticipates project implementation would result in an acceleration of the existing general trend of agricultural land being converted to native habitat. Compared to Alternative 5 and 6, Alternatives 1 and 8 would have a higher potential to reduce total agricultural acreage due to their larger construction footprints and their reduction of levee coverage which would make many areas less suitable for agriculture.” “Some measures would increase flooding magnitude and frequency in some areas. Alternatives 1 and 8 include levee setbacks, and locations riverward of these setbacks would be exposed to increased flooding.” “Planned overtopping would increase inundation frequency of some areas behind levees.”

The best way to make the Missouri River floodplain economically sustainable is to protect the prime farmland adjacent to the river and throughout the floodplain.³

¹ Reference Attachment 1 Calculations

² <https://iowaagliteracy.wordpress.com>; <https://www.nationalhogfarmer.com>.

³ Farmland Protection Policy Act: As required by section 1541(b) of the Act, 7 U.S.C. 4202(b), Federal agencies are (a) to use the criteria to identify and take into account the adverse effects of their programs on the preservation of farmland, (b) to consider alternative actions, as appropriate, that could lessen adverse effects, and (c) to ensure that their programs, to the extent practicable, are compatible with State and units of local government and private programs and policies to protect farmland.

One assumption missing in Section 3.3 page 89-90 of the Lower Missouri River Flood Risk and Resiliency Comprehensive Study & Integrated Programmatic Environmental Impact Statement, is: Food production will become increasingly more important over the next fifty years and beyond.

The main objective of the US Army Corps of Engineers' plan should be to maximize flood control along the Missouri River. By maximizing flood control, the state's number one economic driver can be protected, which in turn supports economic development in the States of Missouri, Iowa, Kansas and Nebraska. While the report may maximize economic development for urban areas, the same is not true for agricultural areas along the river. In fact, the plan would reduce economic benefits derived from the production of food, fiber and fuel throughout the floodplain.

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

A review of the draft report would lead one to believe the federal government, or at least the US Army Corps of Engineers, does not consider agricultural production a wise use of the floodplain. This begs the question, who decides what the best uses of the floodplain are? The answer should be those living, working in, and owning the land. These are the true stakeholders. Stakeholders are those having something at risk. Those whose lives and livelihoods depend on flood control. And those who will suffer real impacts if the recommended plan were to be implemented. State and federal government employees, representatives of conservation and environmental groups whose income and livelihoods are not dependent on whether land is flooded, should not be considered true stakeholders and therefore should not force their biased opinions on those who are true stakeholders.

Appendix A.1: Missouri River Past Performance Assessment, Page 3

“In the 1944 Flood Control Act, the Pick-Sloan Plan proposed a series of flood protection works that were designed to work together compatibly as a system in the Missouri River Basin to protect communities and agriculture from flooding.”

Congress and the planners of the Pick-Sloan Plan, the 1944 Flood Control Act, realized the need to protect farmland and provide flood control. The following excerpt from Oral Arguments during the 8th Circuit Court of Appeals, Case Number 04-2737 on April 11, 2005, in St. Louis, Missouri further emphasizes the importance of flood control and the protection of communities and agricultural land:

US Attorney James Maysonett: “I think what the record shows is that these are relative new ideas. The idea that you would, for example, operate the Missouri system of dams and reservoirs to intentionally flood. That is to create a spring rise.”

The Honorable C. Arlen Beam: “Step-back just a second. You said the spring rise, and I hadn't focused on this, will intentionally flood.”

US Attorney James Maysonett: “Yes, Judge Beam, that is correct. That's. That's part of the concept of the spring rise is that historically the flooding of the river will obviously have a lot of negative effects, also have positive effects for these species.”

The Honorable C. Arlen Beam: “I think that reading the Pick and Sloan plans and living through, old enough to live through part of the political ramifications, if there was anything the Missouri River mainstem dams were supposed to do is to control flooding, so, if there's a priority somewhere hidden in the statutes I think it's flood control.”

In its ruling, the Eighth Circuit Court of Appeals stated:

“The Corps states in § 7-01 of the 2004 Master Manual that in the FCA, “Congress did not assign a priority to these purposes” of “flood control, navigation, irrigation, hydropower, . . . recreation, and fish and wildlife. . .

.” To the contrary, as we clearly stated in *Ubbelohde*, the FCA has been interpreted to hold flood control and navigation dominant and recreation, fish and wildlife secondary. *Ubbelohde*, 330 F.3d at 1019-20.⁴ If, due to extreme conditions, the Corps is faced in the future with the unhappy choice of abandoning flood control or navigation on the one hand or recreation, fish and wildlife on the other, the priorities established by the FCA would forbid the abandonment of flood control or navigation.”

The Eighth Circuit Court of Appeals recognized that flood control is more important than habitat. We believe the US Army needs to also prioritize flood control over environmental habitat. Taking land out of production, converting land from agricultural use to fish and wildlife “habitat” consisting of trees, brush, grasses, weeds, and other ground cover; removing or setting back levees; and allowing the river to flood more frequently, should not be considered a “wise use of the floodplain”. In fact, it increases flood frequency and reduces the economic benefits of agricultural production.

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

The proposed System Plan would take more than 147,000 acres out of production and abandon the federal government’s commitment to the nation and landowners along the river. When the Pick-Sloan Plan was approved through the Flood Control Act of 1944, the federal government committed to provide a 300’ wide and 9-foot-deep channel and providing flood control protection to hundreds of thousands of acres of farmland along the Missouri River. By constructing and maintaining the system of dams, reservoirs and flood control structures, including levees and flood walls along the river, the US Army Corps of Engineers, Congress and the Federal Government further encouraged the development of farming and agricultural production in the floodplain. Removing and setting back levees, allowing the river to flood more frequently, flies in the face of the government’s long-time commitment to provide flood control.

The proposed System Plan focuses on environmental programs that have little to no stakeholder support. Pages 51 and 52 of the Lower Missouri River Flood Risk and Resiliency Comprehensive Study & Integrated Programmatic Environmental Impact Statement discuss the Missouri River Recovery Program established by the US Army Corps of Engineers in 2005.

Lower Missouri River Flood Risk and Resiliency Comprehensive Study & Integrated Programmatic Environmental Impact Statement, Pages 51 and 52

“Congress authorized the Missouri River BSNP Fish and Wildlife Mitigation Project in the WRDA of 1986, Section 610 (a) for a total of 48,100 acres of fish and wildlife habitat to mitigate for adverse impacts caused by the BSNP. Section 334 of WRDA 1999 increased the acreage of habitat to be mitigated for the Mitigation Project by 118,650 bringing the total acres to be mitigated to 166,750 acres.” “To date, approximately 66,000 acres have been acquired in fee title or easement towards the SNP mitigation authority.”

Since 1986, (40 years), the US Army Corps of Engineers and US Fish and Wildlife Service have been trying to purchase land from willing sellers to enroll in the Missouri River BSNP (Bank Stabilization and Navigation Program) Mitigation Program through the Missouri River Recovery Program. The fact only approximately 66,000 acres have been enrolled is proof there is very little appetite for willing sellers to allow their land to be taken out of production and converted to habitat acres. Much of the land in the program was purchased by the US Army Corps of Engineers and US Fish and Wildlife Service after major flood events along the Missouri River. Without floods eroding land, depositing large amounts of sand and causing other damage to farmland, much of the land now in the program would have remained in production.

The sad truth is, the Missouri River Recovery Program depends on more flooding to meet its goal of taking 166,000 acres out of production. Without flooding, the Missouri River Recovery Program is a failed

⁴ *South Dakota v. Ubbelohde*, 330 F.3d 1014, 1019-1020 (8th Cir. 2003).

program. We believe farmers and landowners understand the importance of keeping the productive soils found in the Missouri River floodplain in agricultural use. Furthermore, our members want to encourage the US Army Corps of Engineers to recognize the importance of agriculture and re-evaluate the Benefit to Costs Ratio (BCR) formula used by their economists to determine the BCR for all US Army Corps of Engineer projects. Land values should be included in the formula as well as the value of food, fiber and fuel produced.

In Missouri alone, over one-third of the crop production is in the fertile river valleys. The highly productive soil found adjacent to the nation's rivers makes our country strong. Food production makes the United States strong. The United States has the strongest military in the world, but as a peaceful nation, food is the most powerful tool we can use before turning to the use of bullets. What a waste it would be to allow rivers to run wild and destroy such a valuable part of our nation's strength and security. It only makes sense to protect the rich farmland along our rivers. To do this, flood control must be the top priority and the ludicrous practice of "connecting the river to the floodplain" must stop.

Failed experiment after failed experiment over the past 30-plus years have substantially changed the previously highly engineered river. Structures that once provided a stable channel have been weakened, and in some cases have been removed. Side channels and chutes have been opened to allow the river to flow uncontrolled, causing erosion and scouring. Flood control has been diminished, and riverboat pilots find it hard to navigate the channel, which has become dangerous at many locations. A system once used to provide flood control is now being used as a super-sized science experiment for two birds and a fish, even though the interior least term was delisted in 2021. As a result, we are seeing greater floods more often, human lives have been lost, and people are enduring great suffering. All the while, no scientific evidence can be found to show any of the changes have even helped the fish and two birds they were touted to save! Setting levees back or removing them would only increase these types of damage in the future. So-called habitat creation has reduced more flood control than it has created and increased flood risk in many areas.

Lower Missouri River Flood Risk and Resiliency Comprehensive Study & Integrated Programmatic Environmental Impact Statement, Page 187.

"Alternative 8 also includes fifty levee setbacks, five levee setbacks with raises, and 85 levee removals. These measures would reestablish hydrological connectivity between the channel and riparian habitat in the floodplain in many places. This would have the potential to benefit currently existing riparian habitat and create opportunities to restore new areas as well."

Throughout the draft recommendations, the authors discuss connecting the river to the floodplain. Floodplain connectivity or hydrologically reconnecting the river to the floodplain can be better described as "intentional flooding". The plan to remove or setback levees is designed to allow intentional flooding. Areas now in crop production would be subject to flood each time the river reaches flood stage. This could be several times throughout a year's time.

Flooding is bad. Intentionally flooding is worse. Flooding brings destruction and devastation. Flooding is not only bad for cropland, but intentional flooding can also destroy natural habitat. The use of intentional flooding to attain more acres for the Missouri River BSNP Mitigation Program is reprehensible. More than enough acres to meet the program's goals are already in publicly owned properties that are not counted in the mitigation program. Property providing habitat in programs under the authority of the USFWS, USACE, USDA, and various state conservation agencies should be counted as mitigation acres. In addition, properties under private ownership also contribute to the mitigation goals but are not counted. These properties include land owned by conservation and environmental groups. The 166,000-acre goal would be far exceeded if these acres were considered as mitigation acres for the Missouri River BSNP Mitigation Program.

Levees perform as designed. Flows are exceeding levee designs.

Appendix A.1 Missouri River Past Performance Assessment, Page 113

“Measures that reduce the risk of levees breaching reduce damages from the flood event directly but also allow communities to return to normal much faster. Reducing the risk of breach also reduces future Rehabilitation Program levee repair costs to the levee sponsor and the public. These benefits are not just felt locally but have ripple effects on the local, state and national economies.”

“The past performance assessment for the levees along the Missouri River will be considered for the Lower Missouri River System Plan formulation process and future recommendations.”

Appendix A.4 Resiliency, Page 12

“This report states that the most common risk driver in levee performance is when the levee is overtopped and breaches. This is the case for almost all the levees on the Missouri River.”

Appendix A.4 Resiliency, Page 19

“The average age of the levees in the study, with construction dates listed in the NLD, is 60 years.”

Loading History Tables for levees in each of the study reaches can be found in Appendix A.1. Each table shows the name of the levees, years they experienced flooding, as well as if and how the levees breached. Out of 472 flood events the group of levees experienced, only 8 levees breached before they were overtopped. Of these 8 levees (1.69%), the reason for breaching is not given. 3 levees in the tables were intentionally breached according to their flood-fighting plans. The overwhelming majority (98.3%) of the levees that breached experienced overtopping before breaching. Study reaches 2, 5, 6, 7, and 9 had no levees breach before overtopping. There are no levees in Reach 1 of the study. Thus, 98.3% of the Missouri River levees performed as designed. Flows exceeded the levee’s designed levels of protection and overtopped before breaching. Many levees listed in the tables overtopped without breaching. No federal levees in the Kansas City District were overtopped.

Appendix A.4 Resiliency, Page 3

“A levee is generally designed to control a certain amount of floodwater. If a larger flood occurs, floodwaters will flow over the levee. Most flooding behind levees comes from water overtopping the levee.”

A sound argument should be made for raising levees, noting the deficiency of levee heights and the designed level of protection along the Missouri River. Instead, the report insists that removal and setback of levees is needed to provide conveyance. Levees raised to a higher level of protection would also provide more conveyance.

Many of the Missouri River levees may not have breached if they were raised with wider bases to provide better protection. Most Non-Federal Missouri River levees in rural areas have an AEP (Annual Exceedance Probability) of 0.1 (10-year level of protection) or 0.2 (5-year level of protection). New levee projects in the Kansas City urban area have an AEP of 0.001 (1,000-year level of protection). Some North of Kansas City and in the Omaha area have an AEP of 0.0005 (2,000-year level of protection). In the St. Louis area, the Monarch Chesterfield Levee System has an AEP of 0.0002 (5,000-year level of protection).

Appendix A.1 Missouri River Past Performance Assessment, Page 112

“In the USACE Kansas City District AOR, the federal levees on the Missouri River have historically performed well until they are overtopped. None have ever breached prior to overtopping and only a handful have ever overtopped.”

A system plan where levees were all designed to a minimum 1,000-year level of protection with an AEP of 0.001 would have likely passed the flow from most, if not all, Missouri River floods.

Lower Missouri River Flood Risk and Resiliency Comprehensive Study & Integrated Programmatic Environmental Impact Statement, Page 98.

“Levee raises were set to a consistent, minimum level of protection at about one foot above an approximate 1% AEP event with all levees in their raised condition.”

When considering levee raises, authors of the plan were constrained to a level of protection one foot above the 0.01 AEP or 100-year level of protection. We believe those conducting the study had far too many constraints placed on them. The objectives and principles along with FEMA rules and regulations and constraints from within the US Army Corps of Engineers prevented those conducting the study from looking at what is possible without the constraints. Conveyance can be achieved with level of protection designed improvements to existing levees at existing locations. These improvements could be made at far less costs than the costs outlined in the draft plan.

One reason given for not looking at higher levees is that overtopping would cause deeper flood depths in the protected areas.

Lower Missouri River Flood Risk and Resiliency Comprehensive Study & Integrated Programmatic Environmental Impact Statement, Page 99.

“However, though the frequency of flooding would decrease for most agricultural areas protected by levees, the depth of flooding would increase after overtopping as result of the higher levees.”

When a levee is overtopped or breached, and water fills an agriculturally protected area, the depth of the water doesn't make much difference. For example, two feet of water does just as much damage to crops as 10 feet of water. The crop dies either way. Likewise, 5' of water in a house does as much damage as 10' of water. The increase in the depth of water after overtopping is not as much of a concern as the overtopping itself. Having a 500-year levee with higher depths after overtopping is much better and worth the extra risk than having a 20-year levee, which will overtop more often and at lower flow levels. Increasing the level of protection far outweighs the potential extra damage the higher depth after breaching may cause.

A levee with a 100-year level of protection does a good job of protecting against a 20-year flood event. Likewise, a levee with 1,000-year protection will do a good job protecting against a 100-year or even 500-year flood. Designing a 1,000-year level of protection System Plan should have been and still should be one of the alternatives in the study. A plan where levees on both sides of the river are raised to 1,000-year levels and levees upstream have a 1,000-year level of protection along the entire river could protect the Missouri River floodplain, including communities, farmland, and even environmental habitat areas. The Missouri River was once a highly engineered river system with dams, levees, floodwalls, and other flood control structures that worked well. Over time, flow levels have increased, river profiles have changed, and flood control structures have not kept up with the changes.

Stakeholders along the river want higher levels of protection, improved levee design, and continued commitment to flood control efforts for the Missouri River. The System Plan does not meet these goals. An alternative without FEMA and NFIP “no-rise” restrictions, without levee height and design restrictions, and without an environmental emphasis should be explored. In short, an alternative seeking maximum flood control with the greatest amount of protection to communities and agricultural lands. Flood control and the protection of farmland should be included as primary objectives.

Table 5-2 on Page 239 of the Lower Missouri River Flood Risk and Resiliency Comprehensive Study & Integrated Programmatic Environmental Impact Statement, Page 239.

Protection of farmland should have been included on this table as primary goal for the study.

Table 5-2. Summary of the Four Accounts

Federal Objectives	Maximize Economic Development					Avoid Unwise Use of Floodplains		Protect and Restore Nature Systems					
Guiding Principles	Sustainable Economic Development					Public Safety	Floodplains	Healthy and Resilient Ecosystems	Socioeconomic	Watershed Approach			
Planning Objectives	Reduce economic damages					Reduce the risk of flooding to human life and public safety		Restore floodplain connectivity	Improve the economic vitality of rural and disadvantaged communities				
P&G Accounts	NED			RED		OSE		EQ	OSE		OSE		
Evaluation Criteria	Efficiency		Effectiveness		Effectiveness		Effectiveness		Acceptability	Effectiveness		Completeness/Acceptability	
Metrics	Project Costs	Annual Benefits	Reduced CHRR/R	Tax Base Changes	Impact to Major Regional Employers	Life Safety Risk Reduction	Indirect Health and Safety Impacts	Floodplain Acres Restored	Economic Viability	Social Connectedness	Comprehensive Plan	Implementability	Satisfaction
Alt 0 – No Action													
Alt 1 – Increased Conveyance	\$5.2B - \$12.2B	\$106M	+	--	+	+	+	Up to 147,100 ACRES	+	+	+	+	+
Alt 5 – Resiliency	\$1.2B - \$5.2B	\$52M	++		+				+		+	++	+
Alt 6- Nonstructural*	\$7.9B	\$109M		-	-		-		-	-	-	--	--
Alt 8 – Balanced Plan**	\$7B - \$27.6B	\$197M	+	-	++	+	++	Up to 147,100 ACRES	++	+	+++	+	++

Where is "Protect Agricultural Land"?

* represents positive impacts; - represents negative impacts
 *Non-structural plan identification
 **Total Net Benefits Plan identification

Appendix G, Maps, Page 2

“The following set of maps are a compilation of the recommended plan (Alternative 8: Balanced Plan) for the entirety of the Lower Missouri River. While these are detailed in the report and appendices, this section is intended to aid the reader in a look at the comprehensive, system-wide approach of the study.”

We find the maps in Appendix G extremely troubling and worrisome. When federal agencies draw lines on maps illustrating the potential for levees to be set back or removed, highways and bridges to be modified, ring levees built, and large areas of land placed into restoration and environmental habitat, there may be tremendous impacts and consequences. Releasing these maps into the public venue reduces the property value where these items are shown. For example, land protected by a levee would have a higher appraised value than potentially unprotected land. Once the line on the map is drawn showing the potential for the levee to be removed, the appraised value of the potentially unprotected land would be far less.

The actual location of the lines drawn on the maps are difficult to determine. For example, it is puzzling to tell how far a levee might be set back or how far it might extend upstream or downstream. These maps are presented in the draft as planned recommendations from the US Army Corps of Engineers. We believe levee sponsors should have been consulted on an individual basis, in person, to approve the lines drawn within their jurisdictions before the maps were released to the public.

Lower Missouri River Flood Risk and Resiliency Comprehensive Study & Integrated Programmatic Environmental Impact Statement, Page 42

“Although current land ownership within the study area should not be considered a limiting factor for formulation of alternatives, there are areas within the system that may require more significant real estate planning, mitigation, or acquisition efforts to achieve desired or expected benefits associated with a proposed plan.”

We believe current land ownership within the study area should be considered a limiting factor for the formulation of alternatives. This is especially true when creating the maps in Appendix G, planning levee setbacks or removals, and planning to flood land in agricultural production. Landowners deserve better treatment.

The draft report outlines a 6-year, \$31,843,763,048 plan designed to flood productive farmland, enroll more acres into environmental habitat areas, and gain more control of the floodplain through buyouts and regulations. The costs of the plan presented does not include additional costs of work done by others such as departments of transportation, railroads, utility companies or others. The true costs might be double the amount presented or more.

Governors from Iowa, Kansas, Nebraska and Missouri asked for a plan to improve flood control. Stakeholders want better flood control. The draft plan reduces flood control for rural agricultural lands in the floodplain while providing bigger and better flood control infrastructure for urban areas. Highly productive farmland is seen as a dumping ground to store water passed through urban areas, and as "habitat" for environmental experiments and playgrounds. The draft plan is disappointing, unrealistic, and far too expensive.

The Missouri Levee and Drainage District Association cannot support or condone such a plan.

Respectfully submitted,



Tom Waters, Chairman
Missouri Levee and Drainage District Association

Attachment 1

100,000 Acres Feeds 1,554,492.05 People for an Entire Year

Human Needs 1,600 to 2,600 Calories per Day

Average person 2,000 kcal per Day

Average Person Needs 730,000 kcal per Year (2000 kcal per Day X 365 Days per Year)

Estimated Calorie Needs per Day, by Age, Sex, and Physical Activity Level, Ages 2 and Older

AGE	Males			Females		
	Sedentary	Moderately Active	Active	Sedentary	Moderately Active	Active
61-65	2,300	2,400	2,600	1,600	1,800	2,000
66-70	2,500	2,200	2,600	1,600	1,800	2,000
71-75	2,600	2,200	2,600	1,600	1,800	2,000
76 and up	2,600	2,200	2,400	1,600	1,800	2,000

^a Sedentary means a lifestyle that includes only the physical activity of independent living.

^b Moderately Active means a lifestyle that includes physical activity equivalent to walking about 1.5 to 3 miles per day at 3 to 4 miles per hour, in addition to the activities of independent living.

^c Active means a lifestyle that includes physical activity equivalent to walking more than 3 miles per day at 3 to 4 miles per hour, in addition to the activities of independent living.

Source: Institute of Medicine. *Dietary Reference Intakes for Energy, Carbohydrate, Fiber, Fat, Fatty Acids, Cholesterol, Protein, and Amino Acids*. Washington (DC): The National Academies Press, 2002.

1 Pound of Corn contains 1,566 kcal

In defense of corn, the world's most important food crop

Washington Post 7/15/2015

Tamar Haspel

"In the calorie department, corn is king. In 2014, average yield in the United States was 171 bushels per acre. (And the world record is an astonishing [503 bushels](#), set by a farmer in Valdosta, Ga.) Each bushel weighs 56 pounds, and each pound of corn yields about 1,566 calories."

1 Pound of Soybeans contains 2,024 kcal

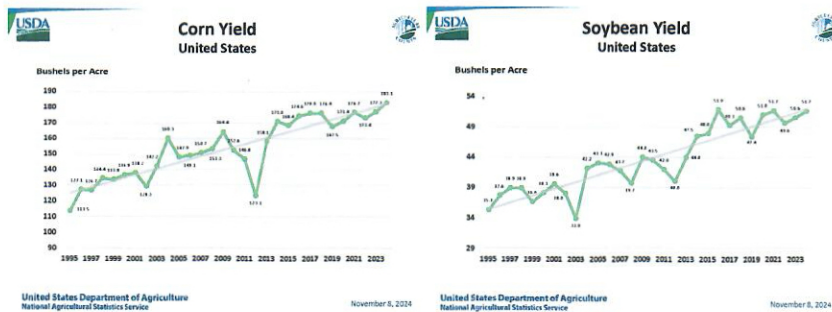


1 bushel of Corn Weighs 56 lbs.

1 Bushel of Soybeans weighs 60 lbs.

Average Corn Yield 183.1 Bushels per Acre

Average Soybean Yield 51.7 Bushels per Acre



Corn: 1,566 kcal/lb X 56 lbs/Bu X 183.1 Bu/Ac = **16,057,137.6 kcal per Acre of Corn**

Soybeans: 2,024kcal/lb X 60 lbs/Bu X 51.7 Bu/Ac = **6,278,448 kcal per Acre of Soybeans**

50,000 acres of Corn 16,057,137.6 kcal X 50,000 acres = 802,856,800,000 kcal

50,000 acres Soybeans 6,278,448 kcal X 50,000 acres = 331,922,400,000 kcal

100,000,000 acres of Corn and Soybeans (half corn half soybeans) = 1,134,779,200,000 kcal per Year

1 average person requires 730,000 kcal per Year (2,000 kcal per Day X 365 Days per Year)

100,000 Acres Feed 1,554,492.05 people per Year (1,134,779,200,000 kcal per Year / 730,000 kcal per Year)

100,000 Acres Feed 1,554,492.05 People for an Entire Year 1,000 Acres Feed 15,544.92 People for an Entire Year

-Tom Waters, Chairman, Missouri Levee & Drainage District Association