Submitted via e-mail to DNR on February 25, 2020.

Conservation, Environmental, and Recreation Group's Response to Flood Recovery Advisory Working Group Interim Report for Governor Michael L. Parson

February 25, 2020

Summary

The interim report to Governor Parson, submitted by the Flood Recovery Advisory Working Group (FRAWG) on December 31, 2020, will not protect Missourians from future floods, perpetuates centuries of environmental harm caused by floodplain disconnection, and fails to account for future weather patterns caused by climate change. Several efforts were made to ensure the FRAWG represented a broad variety of river interests, including conservation, environmental, and recreation interests. Unfortunately, Governor Parson declined to appoint representatives from these important stakeholders. As such, our organizations (including the Missouri Coalition for the Environment, Missouri Sierra Club, Great Rivers Habitat Alliance, Missouri River Bird Observatory, among others), hereafter referred to as "the Conservation Organizations," respectfully submit the following recommendations.

Introduction & Background

This interim report to Governor Parson was created by a coalition of conservation, environmental, and recreation organizations. Our organizations formally requested representation on the Flood Recovery Advisory Working Group (FRAWG) that Governor Parson hand-picked and established by Executive Order 19-14 on July 18, 2019. Of the 18 appointments to the working group, 8 represent agricultural interests in some form. The Executive Order allowed "such other members as the Governor may appoint" to be added to the FRAWG, but despite direct requests to the Governor's office there are no conservation, environmental, or recreation interests appointed to the FRAWG.

Despite any official role, members of the Conservation Organizations attended and provided public comments at all five FRAWG meetings that occurred in 2019. Conservation Organization members also provided the Missouri Department of Natural Resources (DNR) with a set of recommendations on December 4, 2019. Our recommendations were shared with the FRAWG, and we hoped the points would be incorporated into the FRAWG's interim report to the Governor. None of our recommendations were included in the FRAWG's interim report, but those recommendations were reviewed at the in-person FRAWG meeting two months later on February 10, 2020.

We are also concerned about the lack of robust public participation in this entire process. While the FRAWG meetings were open to the public, they were not held at times that would have facilitated working members of the public to attend. The interim FRAWG report to the Governor did not have a formal public comment period nor is it being actively circulated through public outreach channels. At the December 2019 FRAWG meeting in Jefferson City, there was some mention of holding FRAWG meetings outside of Jefferson City in order to connect with

flood-impacted communities, but the 2020 schedule does not include any community or "town hall" style meeting dates.

Recommendation Summary

Our coalition's main messages include:

1. Focus on resilience, flood risk reduction, and innovation rather than a one-track reliance on outdated modes of "flood control;"
2. Use floodplains as tools for flood risk reduction and flood water conveyance, as well as tools for multiple economic, recreational, and environmental co-benefits;
3. Acknowledge how extreme weather and climate change have contributed to recent historic flooding events; and
4. Improve public outreach and participation in this process.

The FRAWG's interim report fails Missouri in three key ways:

1. The FRAWG's recommendations focus on sustaining outdated modes of "flood control." "Flood control" approaches rely on hard, or gray infrastructure like levees and floodwalls to keep water out of the floodplain. To better protect people and property, Missouri's floodplain management agencies should instead focus on flood risk reduction and resilient floodplain development. "Flood control" approaches are outdated because we know now that they can increase flood risk when used incorrectly. Levees and other flood control structures, by their nature, push water onto neighboring land, increasing flood risk for others in the floodplain. Levees and floodwalls also increase residual risk by promoting floodplain development in an otherwise high risk area. When the levees inevitably fail, even more people are at risk than would be had the levee not been built.

   Levees and other "flood control" structures will always be necessary to protect critical infrastructure and investments that cannot be relocated. But, they should be a last resort. Instead, Missouri policy should shift away from using levees and other flood control structures as the default management approach and instead focus on reducing flood risk discouraging development that is not flood compatible, moving people and buildings out of the floodplain, and redevelop floodplain areas in a way that lets the river flood safely and predictably.

2. The FRAWG's recommendations fail to recognize the multiple benefits provided by healthy floodplains. Floodplains are an important component of the river ecosystem. Floodplains convey flood water, process nutrients and other pollutants out of the river water, provide critical habitat for fish and wildlife, and recharge subsurface aquifers. When floodplains are disconnected from the river by levees, or developed as parking lots, they cannot provide these essential functions that benefit people and wildlife.

   Missouri policy should encourage floodplain restoration and protect naturally functioning floodplains. In addition to improving the environment for fish and wildlife, supporting

natural floodplain functions will protect people from flood hazards, improve drinking water, and support recreation.

3. The FRAWG's recommendations fail to acknowledge climate change and the new public safety risks associated with our changing weather patterns. Climatologists predicted our region would see more frequent extreme precipitation events that would, in turn, cause more flooding. This is happening now and Missourians will continue to experience not just more frequent flood events, but flood events that are longer duration, like the 2019 Flood. The policy recommendations are meaningless and pointless unless you acknowledge the underlying climatic driver that is instigating the need for change.

   Climate change must be taken into account to ensure Missouri policies are based on the best science that most accurately predicts future weather patterns. This will protect people and property from living in or investing in high risk areas.

By shifting Missouri policy and taking into account these three key points, it will protect people, property and the environment. There are many opportunities in Missouri to take these principles into account. The Conservation Organizations suggest the following strategies for state and federal decision-makers.

Detailed Recommendations

Recommendations For FRAWG and State of Missouri:

- The FRAWG should acknowledge increase in frequency and intensity of flooding. The State of Missouri and the Corps should endeavor to record and report out on annual damage locations and costs, record and report out on the occurrence of repetitive damage locations, conduct watershed analyses of levee constrictions (pinch points), account for all floodplain investments and ecosystem services, and prepare shovel-ready reports identifying potential levee setback locations.

- FRAWG/State of Missouri should maximize the use of pre-disaster/pre-mitigation funding opportunities from Federal Emergency Management Agency (FEMA), Housing and Urban Development (HUD), and Federal Highway Administration (FHWA), etc. in order to limit future flood damages, build resilient communities, and lessen economic hardships within counties.

- FRAWG/State of Missouri should develop modelling tools based on future predicted changes in precipitation patterns that can guide community planning, zoning, agricultural development in 500 year floodplains and restrict infrastructure development in 100 year floodplains.

- FRAWG/State of Missouri should consider how human-made changes to land use increases flooding risk and offer solutions. Rapid growth of impervious surfaces like

parking lots, increase of agricultural drain tiles, and loss of prairie and wetlands habitats means more water runoff. Permeable pavement, healthy soils initiatives, and support for regenerative land-uses (all of which increase both drought and flood resilience) are some immediately implementable solutions to reduce water runoff.

- The State of Missouri and members of FRAWG acknowledge that funding for real estate acquisition from willing sellers is a major challenge for communities wishing to support setbacks or restoration work. The FRAWG and Missouri should explore opportunities for land acquisition support options for interested levee sponsors[1] and local communities.

- The State of Missouri should recommend and encourage full funding for the following Federal land acquisition programs that could be useful tools for willing sellers needing to repurpose flood damaged acreage. The following are a few real estate acquisition tools that should be fully supported. All of these programs depend on willing sellers.

    - The Big Muddy National Fish and Wildlife Refuge. The refuge was authorized by Congress to be 60,000 total acres total between Kansas City and St. Louis. Only about 20,000 acres have been acquired.

    - The Missouri River Recovery Project and Bank Stabilization and Navigation Project (BSNP) Fish & Wildlife Mitigation Project. This project is authorized to acquire land from willing sellers, but only 40 percent of the authorized acreage has been acquired. We know the Corps has a list of willing sellers who have reached out, interested to sell, but lack of appropriated funds keeps this tool out of reach.

    - NRCS: Emergency Watershed Protection Program, Floodplain Easements. The Emergency Watershed Protection - Floodplain Easement (EWP-FPE) offers an alternative method to traditional conservation easements. USDA's Natural Resources Conservation Service (NRCS) recommends EWP-FPEs to landowners and others where acquiring an easement is the best approach (more economical and prudent) to reduce threat to life and/or property.

    - State land acquisition funding. The State of Missouri should explore the possibility of new land acquisition on property adjoining lands owned by the Missouri Department of Conservation and the Missouri Department of Natural Resources if such properties could 1) enhance the mission and purpose of the adjoining state property, and 2) Be acquired from willing sellers only, to provide a viable alternative to flood damaged, non-productive acreage.

[1] A "levee sponsor" is a broad term applied to the local agencies that are responsible for a levee's operations and maintenance.

- The State of Missouri should make the most of existing plans and models for flood risk management on the Missouri River, including the recommendations outlined in the 1946 Pick-Sloan Plan as well as the 1994 Galloway Report.

- The State of Missouri should allow all Missouri counties to reduce new levee heights based on the 100 year flood under the National Flood Insurance Policy (NFIP).

- The State of Missouri should repeal RSMO 49.605, which restricts the ability of counties to enact their own floodplain policies. Missouri should also enact a statewide prohibition on the uses of tax subsidies for development within the floodplain.[2]

- The State of Missouri should facilitate permanent communication channels and outreach between all floodplain stakeholders, including but not limited to: private landowners, levee districts, municipalities, ecologists, non-governmental conservation organizations, recreationists, and public land managers. On-going coordination among diverse stakeholders will ensure an integrated approach to floodplain management that is beneficial to all Missourians and our shared natural resources. Furthermore, the State of Missouri should prioritize public outreach efforts aimed at providing science-based information to Missouri citizens regarding floodplain restoration and management that is unbiased toward any particular special interest group.

- The State of Missouri should oppose HR 2174 proposing the removal of "Fish & Wildlife" as one of the eight authorized purposes of the Missouri River Mainstem Reservoir System. The Corps has made clear time and time again that they have been operating for "flood control" since March 2018, and that their overall priority is always life and safety.[3] This bill would have no positive effect on flood control and instead removes a valuable tool for mitigating the economic loss of flood-damaged property. The Missouri River is home to endangered species like the pallid sturgeon, and we have a responsibility to protect them from extinction.

- The FRAWG should improve public participation and outreach in this overall process by creating clear opportunities for public comment and holding "town hall" meetings at times and locations that facilitate robust public engagement.

Recommendations For Federal Government Agencies:

- The Corps and the State of Missouri should promote and utilize non-structural management strategically whenever possible, especially where it is supported by local

[2] See https://revisor.mo.gov/main/PageSelect.aspx?section=49.605 and "floodplain," in this case is as defined by FEMA as of January 1, 2019.
[3] See presentation made by USACE Chief Remus to FRAWG: https://dnr.mo.gov/floodrecovery/docs/2020-02-10-mo-river-basin-operations-update-remus.pdf

communities in order to avoid repetitive flood and storm damages. The Water Resources Development Act (WRDA) of 2014, 2016, and 2018 all reiterated that natural infrastructure solutions can be used under the PL 84-99 program (emergency levee repair). The Corps and Missouri should better promote these solutions and support interagency pre-disaster planning for non-structural/natural infrastructure projects so these opportunities are not missed. These non-structural solutions could be especially effective in repetitive loss locations where levees repeatedly overtop or breach.

- The Corps and the State of Missouri should explore existing tools and models to identify where non-structural solutions will have the greatest impact. One existing tool is The Nature Conservancy's new Floodplain Prioritization Tool (FP Tool) that identifies critical opportunities for floodplain conservation and restoration in the Mississippi River Basin. The FP Tool is designed to help identify places where restoration actions would have the greatest impact on the overall health of the river system and the communities that depend on it.

Recommendations For Missouri's Congressional delegation:

- Missouri's congressional representative should seek increased appropriations for all federal programs that support pre-disaster/pre-mitigation assistance.

- Congress should amend PL 84-99 which gives the USACE the authority to reactively rehabilitate levees - federal or private. Congress should amend the law and encourage proactive levee setbacks versus waiting for economic damage to occur.

- Missouri's congressional delegation should oppose HR 5288, the Upper Mississippi River Flood Control Act, HR 5288, introduced by Congressman Blaine Luetkemeyer because the bill seeks to advance flood control projects that are not in the public interest. HR 5288 seeks to re-invigorate the rightfully stalled Plan H alternative developed under the Upper Mississippi River Comprehensive Plan (Comprehensive Plan) by legislating new, after-the-fact contents and consultation.

- Missouri's congressional delegation should support robust funding for the Planning Assistance for the States Upper Mississippi River Flood, Drought, and Sediment Management Study to identify flood management issues along the Mississippi River.

- Consider increasing payments under the Payment in Lieu of Taxes program. Counties in which lands may be federally acquired to reduce flood risk should receive reliable and sufficient remuneration. Those lands provide benefits locally and to other counties along the river.

In Conclusion

The FRAWG's interim report mentions non-structural solutions, levee setbacks, and soil health, but its overall message continues to be focused on short-sighted and often ineffective structural fixes and levee building.

The interim report does not address resilience in any meaningful way, it does not mention climate change, and it does not mention the significant contribution of wildlife habitat to flood risk mitigation. Considering all of the informative presentations made to the group, the FRAWG's interim report does not capture the full range of innovative, flood risk reduction strategies that exist. Governor Parson has said time and time again in this process that he is committed to doing things differently and not repeating the past, but the FRAWG's recommendations do little to advance new, outside-the-box ideas. We are also concerned that many of the recommendations made in the FRAWG's report are too broad to be meaningful and do not consider implementation.

Conclusion

The Conservation Organizations are grateful for the opportunity to submit these recommendations to Governor Parson. We are concerned that no representative of this coalition was formally appointed to the FRAWG and that more of our recommendations were not reflected in the FRAWG's interim report.

We are also concerned about the lack of robust public participation in this entire process. While the FRAWG meetings were open to the public, they were not held at times that would have facilitated working members of the public to attend. The interim FRAWG report to the Governor did not have a formal public comment period nor is it being actively circulated through public outreach channels. At the December 2019 FRAWG meeting in Jefferson City, there was some mention of holding FRAWG meetings outside of Jefferson City in order to connect with flood-impacted communities, but the 2020 schedule does not include any community or "town hall" style meeting dates.

Members of the Conservation Organizations intend to stay engaged and contribute to the FRAWG's meetings in 2020, and hope the final FRAWG report will reflect our feedback.

If there is more information, research, or expertise we can provide on the items presented above, please do not hesitate to reach out to Caroline Pufalt, Missouri River Committee Chair at the Missouri Sierra Club via email at carolinepufalt@gmail.com.

APPENDIX

Case Studies of Relevant Mitigation Efforts

Missouri River, Percival, Iowa: Levee Setback Improves Flood Resilience and Makes Way for Wildlife Habitat

The repetitive cycle of repairing levees along the upper Missouri River in Missouri and Iowa has prompted levee sponsors for L-575 near Percival, Iowa to pursue a non-structural alternative (NSA) under the U.S Army Corps of Engineers (USACE) Public Law 84-99 program[4]. The levee setback project reconnected a section of the Missouri River to the floodplain. This setback allows for increased water conveyance and decreased surface elevations & pressure on levees. Using natural processes increases resilience and economic benefits provided by the levee system.

The program promotes collaboration among state and federal agencies. Additionally, levee setbacks can provide dual benefits for wildlife habitat and recreational opportunities.

Big Muddy Refuge: Wetland Restoration provides multiple benefits for Missourians.

The spring and summer of 2019 brought epic floods to the Midwest and many areas, river crests topped the levels of 1993. While the economic impacts were extensive, the restoration of wetland refugees, such as the Big Muddy, have had positive benefits for reducing flood damages in 2019. Reconnecting floodplains and buying out frequently flooded properties can lower local river crests on average of 0.12 to 0.66 m (.39 – 2ft)[5]. Congress federally authorized the creation of 60,000 acres for the Big Muddy Refuge in Sept 1994 to purchase of flood-damaged lands from willing sellers. To date there are 17 separate units and 19,000 acres between Kansas City and St. Louis. The refuge holds multiple benefits for the community by protecting the floodplain, its species, and providing recreational opportunities to the public. Expanding lands under the Big Muddy can help reduce flood risk along the Missouri River.

Ottawa, IL: Buyouts of frequently flooded areas makes way for community park

The city of Ottawa, IL has become a model for flood risk mitigation. Through the purchase of repeatedly flooded properties, the city has avoided over $9.5 million in losses with acquisition costs at just $4.8 milion in comparison[6]. By removing structures from the floodplain, these areas have been repurposed to recreation areas and open spaces that serve a benefit to the community while being a low cost when the area floods.

Additionally, the City has used public education to engage community members in the flood risk mitigation conversation. The City participates in the Community Rating System

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[4] Engineering With Nature: an atlas. U.S. Army Engineer Research and Development Center. P.156-159
Bridges, T. S., E. M. Bourne, J. K. King, H. K. Kuzmitski, E. B. Moynihan, and B. C. Suedel

[5] USGS: The role of floodplain restoration in mitigating flood risk, Lower Missouri River, USA
Robert B. Jacobson, Garth A. Lindner, and Chance Bitner

[6] Pursuing Community Resilience Over Time, p.42, Illinois State Water Survey - University of Illinois
Sally A. McConkey, P.E., CFM, D.WRE.

(CRS), which was initiated by FEMA and rewards communities for doing more than the minimum under the NFIP. Mitigation activities are divided into four different categories; Public Information; Mapping and Regulations; Flood Damage Reduction; and Flood Preparedness.The City has conducted public education activities in holding public forums and outreach meetings along with the formation of a Flood Commission composed of staff and residents. Additionally, mapping and regulatory changes such as zoning, stormwater management, and floodplain development standards that are higher than those in other communities helped the city exceed the minimum standards for flood protection. By participating in flood risk mitigation activities, the City has been able to decrease flood insurance rates by 25% for all residents[7]

Missouri Flood Buyout Saves Lives, Heartache, and Money

The massive floods of 1993 prompted a **voluntary** buyout of flood-prone properties along the Mississippi River through the Hazard Mitigation Grant Program (HMGP)[8]. Thirteen communities participated in the buyouts and among the 3,146 properties bought out, over half would have flooded again. The most notable point of the buyouts was savings in post flood assistance in more recent floods. After 1993, there was $33.2 million in Individual Assistance payments to residents, including those who later participated in the buyout program. After the same areas flooded again in 2008, there was just $2.1 million in payments from those same 13 communities along the Mississippi River. This is compared to the cost of acquiring all the properties at $37 million. The reduction in Assistance payments offset 85 percent of the cost to acquire the properties. Moreover, with the massive floods later seen in 2011 now in 2019, these savings are even more striking.

Other Relevant Reading and Sources

Brentwood, MO - Flood Mitigation promotes economic growth

The city of Brentwood, MO has flooded along Deer Creek 26 times since 1957[9]. In order to reduce flooding, the city is implementing the Brentwood Bound plan which will restore the natural floodplain and increase local greenspace. Additionally, by restoring the natural floodplain and reducing flooding on Manchester, the 100 year floodplain along Manchester will be reduced thus allowing more business and economic development in that area. Working with the natural landscape, Brenwood is working towards sensible flooding solutions that will

Maryland Heights, MO - Tax Incentives for Floodplain Development Blocked by TIF Commission

The City of Maryland Heights, MO has been seeking to develop 2,200 acres of flood-prone land along the Missouri River. The plan included nearly $151 million in

[7] Source: National Hazard Mitigation Association
Mitigation Best Practices:Public and Private Sector Best Practice Stories for Acquisition/Buyouts. Activity/Project Types in All States and Territories relating to Flooding Hazards. P. 3

[8] Source: National Hazard Mitigation Association
Mitigation Best Practices:Public and Private Sector Best Practice Stories for Acquisition/Buyouts Activity/Project Types in All States and Territories relating to Flooding Hazards. P. 32

[9]Source: National Hazard Mitigation Association
http://mo-brentwood4.civicplus.com/1829/Deer-Creek-Flood-Mitigation

subsidies for pumping and drainage systems to supr additional development in the floodplain[10]. The plan was recently rejected by the TIF Commission and is efficiently dead due to changes in Missouri's TIF law in 2016. Changes in Missouri's TIF law in 2016 limit how cities can use TIF funds when rejected by the Commission. A bad plan was avoided in this instance for Maryland Heights, but serves as an example for positive effects of policy changes for flood mitigation.The State of Missouri should take the next proactive step to disallow TIFs for floodplain development altogether.

Engineering with Nature - An Atlas
https://ewn.el.erdc.dren.mil/img/atlas/ERDC-EL_SR-18-8_Ebook_file.pdf
Engineering with Nature (EWN) is an initiative in cooperation with the U.S. Army Corps of Engineers to leverage natural systems and processes to deliver a broader array of benefits and services from water resources. The Atlas features a number of projects including levee setbacks on the upper Missouri River such as L-575.

Mitigation Matters - Policy Solutions to Reduce Local Flood Risk
Mitigation Matters: Policy Solutions to Reduce Local Flood Risk (PDF)
PEW published a brief in November, 2019 on state and local flood mitigation efforts. This brief discusses the proactive efforts of a number of state and local areas that are saving lives and dollars by funding mitigation measures.

[10]Source:St. Louis Post Dispatch
https://www.stltoday.com/business/local/st-louis-county-opposition-trips-up-maryland-heights-tif-plan/article_e81f7fc1-55ca-5560-9920-6b7c264911f0.html