



### Testimony

U.S. Senate Committee on Environment and Public

Hearing on Water Resources Projects

“The Role of Natural and Nature-Based Features in Water Resources Projects”

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Thank you Chairman Carper, Ranking Member Capito, and members of the Committee for the opportunity to testify today. I also want to recognize and welcome our new Senator and member of this Committee, Senator Padilla, and thank him for his support.

My name is Rick Johnson. I am the executive Director of the Sacramento Area Flood Control Agency (or SAFCA).

### **About SAFCA and Sacramento Flood Control**

Sacramento is one of the most at-risk cities in America for riverine flooding with about \$70 billion in damageable property and half million people at risk. The City sits at the confluence of the Sacramento and American Rivers as shown on Exhibit 1.

The Yolo Bypass, immediately west of Sacramento, carries about 85% of Sacramento River’s flow during flood situations. Water is conveyed to the Sacramento Bypass through the Sacramento Weir.

Our flood issues have been recognized by leaders like you and our Congressional delegation, and we have an active construction program by the Corps of Engineers to rebuild our system.

## **Nature-Based Solutions**

I was asked to discuss the work that is currently ongoing in the Sacramento Bypass.

The projects on the American River were designed to significantly increase the flow-carrying capacity of the river, thus reducing the flood threat to Sacramento. However, this has created a problem where the American River joins the Sacramento River because the river downstream of that juncture cannot adequately handle the additional flow amount.

Likewise, the Sacramento Weir and Bypass, which empties into the Yolo Bypass, do not have adequate capacity either. Fortunately, the land on the north side of the Sacramento Bypass is not urbanized and this gave us the opportunity to increase the flow-carrying capacity by setting back the levees on the north side without being too costly.

As part of the project, we are also able to include a fish passage to allow species such as salmon and steelhead, who historically have been trapped behind the old Sacramento Weir, to move back into the Sacramento River.

The widened floodplain will also allow other habitat to be established.

## **Urban Settings May Limit Nature-Based Solutions; However, Structural Solutions Can Include Nature-Based Components**

In cases such as urban areas like ours, there may not be as many opportunities for solely nature-based solutions due to excessive costs. However, there are opportunities to incorporate nature-based components into structural solutions.

For example, we have situations where the American River has eroded its banks and threatened the levee. Normally, we would set the levees back, away from the main channel, allowing the river to move around within its natural floodplain. However, since land adjacent to the levees had already urbanized, it made a set-back levee solution cost-prohibitive and too disruptive to the community.

A traditional structural solution would be to harden the levee and the banks with rock work, called “revetment”. However, in this case we were able to come up with a nature-based component that was added to the structural solution. A planting berm was constructed on top of the revetment and planted with vegetation.

This solution still provided the structural hardening of the levees, but also restored and even enhanced the shaded riverine habitat in this section of the river.

## **Some Current Policies Can Limit Nature-Based Innovation**

I want to provide an example about how current policies can have a limiting effect on implementing nature-based components.

The Yolo Bypass was originally constructed for flood control only, but has evolved into an area with multiple uses, such as providing critical habitat for endangered species.

Improving the Yolo Bypass is urgently needed, but this time we need to study it through a multi-purpose lens. The Corps did a study previously, but their process and policy made it impossible to fully examine all the uses and benefits the Bypass could offer, including addressing critical habitat.

One example of missed opportunity can be found in the original Yolo Bypass project. I provide specifics in my written statement, but due to time constraints, I'll simply highlight an administrative policy by the Corps of Engineers that should be revisited in future efforts.

While real estate interest in lands for flood control purposes was acquired through easements, the agency's policy was that lands providing environmental benefits would have to be acquired through fee title purchase, which was prohibitively expensive. Policies and practices such as these have made it difficult to incorporate more nature-based solutions and components into the projects.

The Yolo Bypass Comprehensive Study, authorized by Congress in Section 209 of WRDA 2020, directs the Corps to perform a comprehensive study of the Yolo Bypass with a multi-purpose perspective. It is also an opportunity to re-think the types of benefits that can be used to justify multi-output solutions.

We look forward to working with our partners at the Corps on this study.

## **Conclusion**

In conclusion, I want to thank you having this important hearing and for passing WRDA 2020, including Section 209.

I also want to recognize the professionalism and courtesy of your respective staffs.

Thank you again for this opportunity and I'll be happy to respond to your questions. THANK YOU.