Steps to Success

USACE Operations teams share how to maximize benefits of Sustainable Rivers Program partnership

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One of the hallmarks of the Sustainable Rivers Program (SRP) is its ability to bring together a cross-section of U.S. Army Corps of Engineers (USACE) teams and partners to achieve the goal of generating multiple benefits from USACE infrastructure.

USACE Operations teams are vital to SRP's success. Successful examples of these teams leading and engaging in SRP projects can help guide future applications to the program.

In the Kansas City District, Conservation Biologist Kyle Ruona is using SRP funding and tools to explore environmental pool management opportunities at six reservoirs – Milford, Kanopolis, Wilson, Harlan County, Tuttle Creek and Perry lakes – on the Kansas River. Ruona coordinated SRP activities with a cross-section of USACE teams in the district, as well as with operations project managers at each of the six sites and with the chief of operations for the district. External partners like The Nature Conservancy, Ducks Unlimited, Friends of the Kaw, and state agencies in Kansas and Nebraska are also engaged.

The district used both geographic information system (GIS) data and the USACE Hydrologic Engineering Center's Regime Prescription Tool (RPT) to model how water level changes could improve habitat. In many cases, nominal adjustments in lake level can yield major benefits for fish spawning, migratory birds, and wetland vegetation, Ruona said.

"We're exploring ideas for adaptive management at each reservoir, including a potential conservation band that could be applied at each lake," said Ruona.

In the Mobile District, Tim Rainey, operations project manager at Lake Sidney Lanier on the Chattahoochee River in Georgia, is leading an SRP initiative at Buford Dam. This SRP-funded effort is designed to improve water quality and dissolved oxygen levels on a 35-mile section of the river upstream from Atlanta.

Lake Lanier stratifies during the summer, resulting in low dissolved oxygen levels in water released from the dam.

"We wanted to see if we could combine normal releases from the reservoir with flows from sluice gates, which would provide a source of aerated water to the river," said Rainey.

Working closely with USACE teams in Operations, Hydropower, Water Management, and Planning, and the Georgia Department of Natural Resources, the team collected and analyzed data so that Operations teams could identify the appropriate level of flows from the sluice gates. In 2023 and again in 2024, the team tested different combinations; data show that dissolved oxygen levels below the dam increased from 4.0 to 6.0 mg/L, a significant improvement.

In the Rock Island District, Perry Thostenson, supervisory natural resource specialist, has incorporated SRP recommendations into operations at Lake Red Rock and Saylorville Lake on the Des Moines River. In 2016, the team started by engaging a cross-section of USACE staff and partners -- including state fish and wildlife agencies, universities and non-governmental organizations – to help identify opportunities.

Migratory waterfowl like these black-bellied whistling ducks have benefitted from SRP-recommended environmental flows that help restore wetlands. (Photo by Evan Lowenstein)

The group recommended that USACE consider management options for fish and mussels, water quality, recreation, waterfowl and shorebirds, among others. An environmental flows workshop fleshed out the details.

In a 2019 water control manual update, USACE added a new conservation band to both reservoirs, which has enabled the Operations teams to raise the pool in the spring for fish spawning, draw down the reservoir in late summer for shorebirds, and hold water levels steady over the winter to protect hibernating reptiles and amphibians.

Thostenson said the SRP work on the Des Moines River has resulted in a healthier river, enhanced collaboration within USACE and with other agencies in Iowa, and improved knowledge of the river's ecology and hydrology.

"There are a lot of things we can do with our infrastructure to bring about a healthier aquatic system," he said.

Drawing from these examples, USACE Operations teams have identified several key ingredients for ensuring the success of SRP projects, including:

- Coordinate SRP projects with a cross section of USACE teams in the district. All SRP proposals need approval from each district's chief of operations, and each SRP project should have a consistent point of contact.
- Know how SRP recommendations might affect existing management practices in water control manuals, basin agreements and authorized project purposes.
- Ensure the district team has capacity to deliver within the proposed timeframe.
- Brainstorm internal and external partners who can provide information and expertise. That includes USACE teams, as well as local and regional stakeholders.

"These are just a few examples of how the Sustainable Rivers Program can support activities that contribute to a more sustainable and resilient Civil Works project," said Meg Gaffney-Smith, deputy chief USACE Operations and Regulatory Division.

"SRP provides opportunities to explore actions to enhance environmental outcomes that can be accomplished with little or no cost to the project, while continuing to deliver our congressionally authorized missions."