



Possum Kingdom Flow Control Gate Replacement

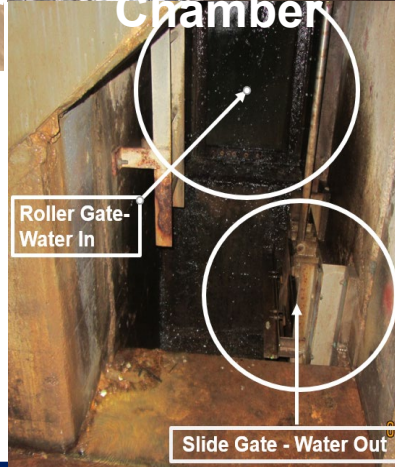


Bear Trap Gate

Morris Sheppard Dam creates Possum Kingdom Lake. The dam utilizes 9 Bear Trap gates to control the release of water. Each gate has a chamber underneath with smaller gates that allow water in and out of the gate chamber. Each chamber houses one roller gate and actuator that allows water into the chamber (“floating the gate”) and one slide gate and actuator that allows water out. The hydraulic process of allowing water in and out of the chamber enables dam operators to lower and raise a Bear Trap gate to control the reservoir level.



Inside Gate Chamber



Roller Gate - Water In

Slide Gate - Water Out



Operating Piers

20

14

8

Low Flows

The dam also has three Low Flow Outlets that allow water releases at reduced rates for operational needs. Each outlet is opened and closed with a slide gate that controls the release of water. All the gates are controlled by their corresponding operating pier.

The Project

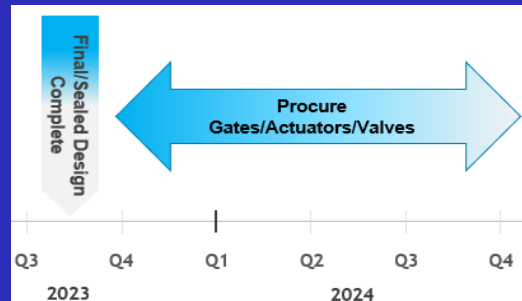
The dam flow control systems are critical to reservoir operations and managing the release of water. This project is necessary to bring these systems up to date, improve reliability, decrease maintenance and reduce the effect of zebra mussels should they be introduced to Possum Kingdom Lake. This project will replace the current roller gates with slide gates and replace the associated actuators, gate stems and pedestals. The current slide gates are in good condition and remain serviceable; however, the actuators, gate stems and pedestals will be replaced. This project will also replace the three Low Flow slide gates with a newer design and replace the actuators, gate stems and pedestals.

Current Project Status 4/28/2023

- Gannett Fleming (GFI) will provide engineering design and construction oversight services; PK Reservoir System Maintenance Unit (RSMU) will execute construction while performing the corresponding pier plate wall work.
- 100% Final/Sealed Design received March 29, 2023
- Next step is the procurement of required gates, actuators and valves

Planned Schedule

Note: BRA Fiscal Year Runs Sept to Aug



Budget Summary

FY 2023 Budget	\$726,000
FY 2023 Project Expenses (as of 3/31/23)	\$211,554