PhD Research Brings New Understanding of Fish Habitat

Lower Henry's Fork Research by Christina Morrisett

Christina Morrisett is a former HFF intern who is now working towards her PhD in the Watershed Sciences Department at Utah State University. For her PhD research, Christina partnered with HFF to better understand groundwater-river dynamics and identify a low flow strategy for the lower river that benefits fisheries and the fishing experience, while still meeting irrigation needs.

This summer, she and HFF staff installed piezometers (mini wells) and streamflow gages, and took depth-to-groundwater measurements. Christina's project aims to understand when the river gains or loses water and where. Her preliminary results indicate 85 cfs is gained between St. Anthony and Parker between July and October from groundwater returns. Also, water entering the river from groundwater springs are 7ºF cooler than the river itself at low flows.

Christina plans to use this data with a state-created groundwater model to simulate alternative recharge strategies to identify strategies that maintain streamflow and temperatures needed for aquatic ecosystems. Increasing late summer streamflow through managed aquifer recharge could benefit fish habitat in the lower river as well as keep more water in Island Park Reservoir, conserving water supply and maximizing reservoir carryover.