

Bird populations nearly triple in response to habitat restoration along Putah Creek

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Like many rivers and streams in the western United States, Putah Creek is dammed and the majority of its water flow is diverted. The lower watershed, on the floor of California's Central Valley, is narrow and channelized, and ran dry during a series of drought years in the 1980s. A historic agreement was signed in 2000 to ensure minimum water flows in the lower creek to protect both the ecosystem and the livelihoods of farmers and residents living along its banks. Numerous efforts to improve ecosystem condition have already benefited native fishes, and our study examined how local bird populations have responded.

Between 1999 and 2012, we surveyed bird populations during the breeding season at 14 different sites along the length of the lower creek. We used these data to estimate the average density (birds per acre) and diversity of birds along the creek in each year. We then estimated the changes in the bird density and diversity between 1999 and 2012.

Our study showed that the density of birds along Putah Creek nearly tripled in just 14 years, from 30 to 84 birds per acre. This increased density was

not simply the result of common species becoming more abundant. Bird diversity also increased, with some of the rarer species becoming more common.

Out of the 43 individual bird species we examined, 27 were significantly more abundant in 2012. These trends could not be explained by general changes in the abundance of these species throughout the Central Valley, suggesting they are the result of local habitat restoration efforts.

Despite these successes, there is still room for improvement. When we compared species densities along Putah Creek to the [density objectives](#) defined by the [Central Valley Joint Venture](#) for twelve key species that depend on this streamside habitat, only one (Nuttall's Woodpecker) had met its density objective. Others reached their density objective only at a few individual sites along the Creek, more often at sites farthest upstream.

Our results provide evidence that birds have responded positively to the restoration and management of the lower Putah Creek watershed following the Putah Creek Accord, similar to the response

of the native fishes, but that continued restoration efforts are needed to further improve the ecosystem's ability to support a robust and diverse bird community.

Main Points

Since the historic Putah Creek Accord was established in 2000, improved water flow and habitat restoration efforts have contributed to a long-term improvement in ecosystem condition.

Between 1999 and 2012, breeding bird densities nearly tripled, from 30 to 84 birds per acre. Diversity also increased significantly.

Compared to Central Valley Joint Venture conservation objectives, there is still considerable room for improvement, particularly at the sites farthest downstream.

Dybala KE, Engilis A, Trochet JA, Engilis I, Truan M. 2018. Paper authors. [Evaluating Riparian Restoration Success: Long-Term Responses of the Breeding Bird Community in California's Lower Putah Creek Watershed](#). *Ecological Restoration* 36:76-85.