

Waterbirds need a mosaic of suitable agricultural fields and wetlands in the Delta

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Despite the loss of over 90% of its natural wetlands, the Central Valley is still extremely important to wintering and migratory waterbirds.

Conservation of waterbirds in the Central Valley is urgently needed in the Sacramento–San Joaquin River Delta region, where environmental problems are increasingly complex.

Currently, key waterbird-friendly land cover types in the Delta include post-harvest corn, winter wheat, irrigated pasture, and alfalfa, with smaller amounts of rice and wetlands.

From 2013 to 2015, we studied the habitat associations of waterbirds in the Delta during fall migration and winter. Overall, use of agricultural crops and wetlands varied by waterbird group, season, and geographic subregion.

In fall, wetlands were particularly important overall, but intermittently flood-irrigated alfalfa and pasture were important for some species (Long-billed Curlew,

White-faced Ibis). In winter, wetlands and flooded rice and corn were important to many waterbird groups, and non-flooded corn and irrigated pasture to geese and cranes.

Factors influencing waterbird abundance varied among groups and across various spatial scales. In both seasons, most groups had a positive association at the local level with flooded ground and open water and a negative association with vegetation.

The broader landscape also influenced local bird abundance. In winter, ducks, shorebirds, and long-legged waders were more abundant when there were more wetlands or flooded grain fields in the surrounding landscape. Geese and cranes were more numerous when there were more surrounding grain fields of any kind (flooded or not). In fall, the Long-billed Curlew was more abundant when there was more surrounding irrigated pasture and alfalfa.

Main Points

Maintaining robust waterbird populations in the Delta requires a mosaic of wetlands and suitable crops.

Managers should prioritize corn, rice, alfalfa, and irrigated pasture, and ensure that lots of corn or rice is flooded in winter.

Landscape-level conservation actions that support both wildlife and working lands in the Delta should be urgently prioritized.

Shuford WD, Reiter ME, Sesser KA, Hickey CM, Golet GH. 2019. **The relative importance of agricultural and wetland habitats to waterbirds in the Sacramento–San Joaquin River Delta of California.** *San Franc Estuary Watershed Sci* 17(1). <https://doi.org/10.15447/sfews.2019v17iss1art2>