

## ABSTRACT

### CROP TYPE AND WATER DEPTH AS DETERMINANTS OF WATERBIRD FOOD PRODUCTION IN POST-HARVEST FLOODED AGRICULTURAL FIELDS

California's southern San Joaquin Valley is an important North American waterbird region, but has suffered comparatively disproportionate wetland loss. I examined variation in waterbird habitat value of post-harvest flooded cropland by comparing waste seed densities and insect emergence rates across three crop types (alfalfa, tomato, wheat) during August-October, 2003-2004. Aquatic insect emergence rate and biomass were higher in tomato fields than in wheat or alfalfa. Waste seed density did not vary significantly among crop type. *Chironomus dilutus* larvae were grown in environmental chambers under two thermal treatments, both observed in the field, to investigate thermal fluctuation effects on larval survival and biomass. Larval survival and biomass were significantly greater in the low temperature fluctuation treatment suggesting that deeply flooded fields support greater insect production. This research shows agricultural field habitat values in the southern San Joaquin Valley vary by crop type and water management and could improve regional waterbird abundance.

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