



Oases in the Desert

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Half an hour before first light, our field truck rolls to Sandia Wetlands in Balmorhea, Texas. The light from the truck sends some American avocets and black-necked stilts into frenzy. A coot runs over the water and quacking and cackling alerts us of the ducks present on the next unit over. We shut off the light and let the birds settle down before sneaking into the blind.

With the first dim glow over the foggy wetland units, we begin to see strange silhouettes and behaviors through the binoculars. Even with very little light, we observe the birds being busy feeding, flying and flirting. Pair bonding began taking place in winter and the dancing and prancing safeguards those bonds as they continue into the breeding season.

"A new day has begun on the crane marsh. A sense of time lies thick and heavy in such a place. ... The cranes stand, as it were, upon the sodden pages of their own history." ~Aldo Leopold, "Marshland Elegy," *A Sand County Almanac*

We observe all three species of teal in little groups dabbling and chuckling. On less than two acres of this wetland, we see no less than 80 birds at any given time that morning. With miles of nothing but desert around, even small arid wetlands like this attract any migrating waterfowl that passes over. Arid wetlands create an oasis not only for the waterfowl and shorebirds but also for amphibians, reptiles, songbirds and mammals.

In the lower 48 states, more than 50



percent of the wetlands have been destroyed since the 1600s. Wetlands have been drained and converted to farmlands, industrial and housing developments, and are being used as receptacles for human waste. Wetlands are the fastest disappearing ecosystem in the world. Yet, over 33 percent of the species listed as "threatened" and "endangered" by the U.S. Fish and Wildlife Service are wetland *obligates* – they must spend at least a part of their life cycle in a wetland.

Wetlands now cover only 3.5 percent of the

surface area in the United States and not all of these habitats may be suitable for wildlife. Increasing demand for water in areas like the desert Southwest has put further strain on already dwindling wetland resources. Wetlands across the Southwest are essential as stopover sites for migratory birds. Besides the biological diversity produced by wetlands, they are also important in carbon fixation, nutrient removal and transformation, methane equilibrium, and recharge and discharge of aquifers.

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as salt cedar. Minimal habitat remains for use by millions of shorebirds and waterfowl that migrate annually and depend on these wetlands.

Fortunately, many of the man-made water impoundments in the Southwest are managed actively via timely inundation and drawdown of water from the wetland units. During the summer, the wetland units are allowed to dry which promotes germination and growth of vegetation. In the fall, once the vegetation has seeded, the wetland

is one of the biggest priorities, on larger wetlands habitat is also managed to allow breeding pairs of ducks to seclude themselves from competitors. Immediately following the northward migration in spring, these ducks will begin breeding. Seclusion habitat allows the female duck to improve body condition before breeding. This type of habitat often translates to *bosques* – thick hardwoods that are inundated in the fall. A bosque also attracts birds such as the yellow-billed cuckoo that is currently listed as threatened by the U.S. Fish and Wildlife Service.

With an increasing demand for water and land in the Southwest, it is imperative that private landowners be involved in the management and conservation of wetland habitat if future generations are to enjoy them and the wildlife associated with them. Borderlands Research Institute is presently working with landowners and government agencies to ensure just that.

We finished our survey that day counting many individuals of 15 different species of shorebirds and waterfowl. Cooperative efforts from private landowners, Borderlands Research Institute, state land and wildlife agencies, and the United States Fish and Wildlife Service will ensure wildlife has access to wetland habitats for years to come. 🌱

Historic overbank flooding from many rivers in the Southwest created seasonal wetlands along those rivers. Many of these rivers and wetlands have now been partially or completely drained to provide additional land for agriculture and water for nearby cities and towns. The banks of these rivers have also been invaded by exotic plant species such

units are inundated again to coincide with the migration of waterfowl. This creates habitat and a source of high carbohydrate food which is necessary for the high energy demand during the migration.

Wetland biologists take many things into consideration when managing these wetlands. While production of high quality foods

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