

Plains and Great Basin Riparian Wetlands

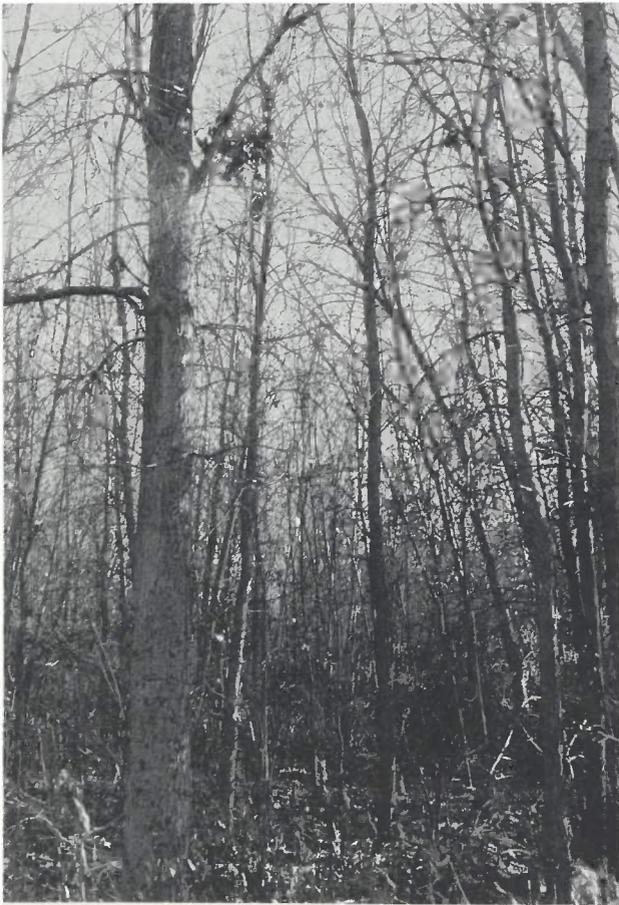


Figure 156. Cottonwood (*Populus deltoides* ssp. *sargentii*) forest along the Cimarron River near the Colorado-New Mexico-Oklahoma boundaries. It is December and this deciduous flood plain forest, although appearing bleak and uninviting, is actually a haven for wildlife during the wind swept storms of winter.

Monotypic gallery forests and woodlands of Plains Cottonwood (*Populus deltoides* ssp. *sargentii*), Rio Grande Cottonwood (*P. wislizenii*), Peachleaf Willow (*Salix amygdaloides*), or Narrowleaf Cottonwood are the dominant climax vegetation along streamsides east of the Rocky Mountain and in much of the Great Basin (Figs. 156, 157). Most riparian reaches are in successional stages, and scrublands interrupted by an occasional cottonwood grove or tree and composed chiefly of scrub willows (*Salix exigua* and others; Fig. 158), or less commonly, scrubby trees such as Red-osier Dogwood, are typical riparian communities.

In the western, warmer portions of the Great Basin biotic province, disclimax riparian scrublands and strands populated by the introduced Saltcedar (*Tamarix chinensis*) now comprise many miles of river and stream channels, including ephemeral tributaries (Fig. 159). This situation is especially prevalent in areas of manipulated discharge below storage reservoirs, as along the San Juan River near Farmington, New Mexico. Other exotic plants such as Russian Olive (*Elaeagnus angustifolia*) and Camelthorn (*Alhagi camelorum*) have become naturalized and contribute increasingly to the composition of scrublands along these and other Great Basin drainages.

Although these environments are important to a number of riparian animal species of more general distribution (e.g., Yellow-breasted Chat), at least one bird, the Black-billed Magpie (*Pica pica*), is centered here. Also, several species of the Eastern deciduous forest find their southwestern limits in local associations of Plains and Great Basin riparian communities. These include Catbird (*Dumetella carolinensis*), American Redstart (*Setophaga ruticilla*), Veery (*Catharus fuscescens*), Eastern Phoebe (*Sayornis phoebe*), and Red-headed Woodpecker (*Melanerpes erythrocephalus*). Woodhouse's Toad (*Bufo woodhousei*), spadefoot toads (*Scaphiopus intermontanus*, *S. bombifrons*, *S. hammondi*), Leopard Frogs (*Rana pipiens* complex), and garter snakes (*Thamnophis radix*) are amphibians and reptiles well represented in these riparian environments.

Of the piedmont and alluvial rivers with cold temperate waters, only those draining to the Gulf of Mexico have relatively diversified fish faunas (Table 32). The largest southwestern ichthyofauna is that of the Plains rivers and of the Rio Grande system. The upper portion of Plains streams, e.g., the uppermost Red River system (Fig. 146), supports numerous minnows characteristic of smaller or moderate-sized habitats: Plains Stoneroller (*Campostoma anomalum*), Creek Chub (*Semotilus atromaculatus*), Plains Minnow (*Hybognathus placitus*), Flathead Chub (*Platygobio gracilis*), Sand Shiner (*Notropis stramineus*), Fathead Minnow (*Pimephales promelas*), and others. White Sucker (*Catostomus commersoni*) also is common, and has been introduced into some western drainages. Plains Killifish (*Fundulus kansae*) lives in shallow, saline, more severe places. An infusion of Plains species occurred into the Rio Grande basin as the Pecos River cut northward through unconsolidated sediments along the southeastern flank of the Rocky Mountains and pirated headwaters of the Brazos, Colorado (of Texas), and Canadian rivers (Belcher, 1975; Leonard and Frye, 1975). Likely examples of this event are Sand Shiner, Flathead, and Creek chubs, and such pairs as Plains and Rio Grande killifishes (*Fundulus kansae* and *F. zebrinus*) and Red River and Pecos pupfishes (*Cyprinodon rubrofluviatilis* and *C. pecosensis*; Echelle and Echelle, 1978). Remnants of an "old" (Tertiary) fauna also



Figure 157. A "linear" forest of Narrow-leaf Cottonwood (*Populus angustifolia*) along irrigation ditches near Springerville, Apache County, Arizona. Note the scrub understory that is an important cover-type for wildlife during the cold of winter. Elevation ca. 2,150 m.



Figure 158. Successional scrubland of scrub willows (*Salix* spp.) and young cottonwood (*Populus sargentii*) along the Vermejo River. Colfax County, New Mexico. Given time these communities will pass into forest and woodland - unless, and until, interrupted by high intensity flooding. Elevation ca. 1,800 m.



Figure 159. Great Basin riparian strand along Hamblin Wash, Coconino County, Arizona. An open stand of Saltcedar (*Tamarix chinensis*) and smaller shrubs on the floodplain of an ephemeral stream (dry wash) within the Great Basin Desert. Elevation ca. 1,500 m.

persist in the upper Rio Grande basin, e.g., Pecos Chub (*Gila pandora*) and a mountain-sucker (*Pantosteus plebeius*).

The Colorado River system physically dominates the Southwest and hosts an impressive array of endemic genera and species of fishes. Tributaries to the middle Colorado River now range from series of springs rising from the intermittent channel of Pluvial White River and Meadow Valley Wash in southern Nevada (Hubbs and Miller, 1948; LaRivers, 1962), to larger streams with local perennial flow such as the Virgin and Little Colorado rivers. Extreme isolation has led to differentiation. Each major stream has its own species or subspecies of spinedace: *Lepidomeda vittata* in the Little Colorado, *L. mollispinis mollispinis* in the Virgin River, *L. mollispinis pratensis* in Meadow Valley Wash, *L. altivelis* in lower White River, and *L. albivallis* in the isolated

upper White River (Miller and Hubbs, 1960). Mountain-suckers, although all referred to *Pantosteus clarki* by Smith (1966), show similar differentiation (Minckley, 1973), as do local populations of chubs (*Gila robusta jordani* in the White River system and *G. robusta seminuda* in the Virgin River) and Speckled Dace (Williams, 1978). Thermal endemics of the Moapa River (the springfish, *Crenichthyys baileyi*), and Moapa Dace (*Moapa coriacea*) will be discussed later under springs and marshlands, although the last is characteristic of both pools and relatively swift runs.

The upper Colorado River system, mostly north of our area of coverage, supports special big-river fishes to be covered below, plus Roundtail Chub (*G. robusta robusta*), Speckled Dace, and tributary forms of Blue-head Mountain Sucker (*Pantosteus discobolus*).