NEOTROPICAL MIGRANTS

The **summer tanager** is a large tanager, about 17 cm long. The summer tanager is most easily confused with the congeneric scarlet and hepatic tanagers. Adult males are distinguished from the scarlet tanager by paler plumage, with more rose or orange-red than intense scarlet, and red, rather than black, wings and tail. Female summer tanagers are usually brownish or orange-yellow, lack greenish cast to plumage, and have narrow, yet conspicuous, yellowish edging on wing coverts that make the wings appear to have the same color as the body. Some older female summer tanagers apparently become partly or even completely pigmented as in males, with plumage ranging from yellow to orange-red to red. Some females even show a patchy plumage with several shades of red scattered across body. Typical immature male summer tanagers have a distinctive spotted or splotched plumage with orange-red and red patches on an otherwise yellowish plumage. Many immatures may be indistinguishable from females. The summer tanager is a rare to uncommon summer breeder along the LCR. Summer tanagers forage primarily for large insects as they move deliberately through the canopy of tall riparian trees, sallying for aerial prey or snatching insects from the foliage or branches while in flight. The midsummer diet on the lower Colorado River was mainly cicadas, bees and wasps, and grasshoppers, with a few spiders, beetles, flies, and bugs.

The **Arizona Bell's vireo** is a small vireo, with a length of 115-125 mm and a weight of 7-10 g. This vireo has short, rounded wings, which makes the tail look long. The bill is short, straight, and slightly compressed at the base. Male and female Bell's vireos are sexually monomorphic in plumage color throughout the year. This plumage color varies from generally drab gray to green above, white to yellow below, with an unstreaked breast. It also has a faint white eye ring and there are two pale wing bars, with the lower bar more prominent. The plumage of juveniles resembles that of adults in worn summer plumage—essentially white and gray, but whiter below with more distinct wingbars. The Arizona Bell's vireo is a summer resident and typical breeder of the streamside fringes of willows and mesquite along the lower Colorado River, generally breeding between late March and late September. The earliest recorded arrival date for the LCR was March 8th and the latest departure date was from late November. The Arizona Bell's vireo is almost entirely insectivorous, with food items predominantly including various bugs, caterpillars, beetles, and grasshoppers. Other items in the summer diet included adult moths and butterflies and their eggs, ladybird beetles, weevils, leafbeetles, bees and wasps, spiders, snails, and occasionally, wild fruit.

The **Sonoran yellow warbler** is a medium-sized, foliage-gleaning wood warbler (12-13 cm long, 9-11 g). Its plumage is more extensively yellow than most other wood warblers, and is unique in having yellow on the inner webs of the tail feathers, except for the middle pair. The yellow warbler has indistinct wing bars. Yellow warbler males exhibit rather distinct geographic variation both within and among the three taxonomic groups. The variation of female and immature yellow warblers is also wide ranging but less well known. The yellow warbler is a widespread species in North America, breeding as far north as the tundra regions of Canada. The yellow warbler remains common in much of its range as a habitat generalist. In general, yellow warblers are closely associated with moisture-loving deciduous trees throughout much of their extensive North American range. In the arid West, this preference leads them primarily to cottonwood and willow dominated riparian areas. Historically, the Sonoran yellow warbler bred in the willow and cottonwood habitats that lined the LCR. As a generalist species the Sonoran yellow warbler appears to adapt its foraging to variation in local vegetation structure. They have been know to eat ants, bees, wasps, caterpillars, beetles, true bugs, flies, and spiders.

The **vermilion flycatcher** is a small flycatcher with a length about 13-14 cm, and a mass of 11-14 g. The plumage is sexually dichromatic. The adult male has bright vermilion on the top of the head with underparts bright vermilion, scarlet, or orange. The lores, earcoverts, and nape form a dark blackish-brown mask, with the remaining upperparts including wings and tail colored blackish brown. The adult female has the top of the head, ear coverts, and remaining upperparts, including wings and tail, colored grayish brown, becoming darkest on the tail. The forehead and indistinct superciliary stripe are grayish white, with the remiges and wing coverts margined paler, forming wing bars on the greater and median coverts. The female's underparts are whitish, becoming pale red to salmon-colored toward the posterior, and finely streaked with gray on the breast, sides, and flanks. Adult plumages are similar throughout the year. On the LCR, vermilion flycatchers are most often found in riparian woodland dominated by willows and cottonwoods with mesquites, surface water, and pastureland frequently nearby. The vermilion flycatcher prefers open areas and often perches in a conspicuous location from which it sallies frequently attempting to capture prey. Like all flycatchers, this species consumes insects and other arthropods. Among the insects known to be taken are grasshoppers, beetles, flies, and bees.

MONITORING AVIAN PRODUCTIVITY AND SURVIVORSHIP (MAPS):

System monitoring is conducted to collect data on existing populations and habitats of covered species to determine their status, distribution, density, migration, productivity, and other ecologically important parameters. The Monitoring Avian Productivity and Survivorship (MAPS) program helps to accomplish these objectives with several of the LCR-MSCP covered avian species as well as other resident species.

Currently there is a MAPS site at two of the MSCP restoration areas: Cibola Nature Trail, near Blythe, CA, and the other is at Beal Lake, near Needles, CA. The MAPS season is broken down into ten 10-day banding periods that begin on May 1st, the breeding season for most species along the lower Colorado River. Various MAPS sites have been operated along the LCR since 2000 by Reclamation.

Each site has ten 2.6 meter by 12 meter mist nets set up in various habitats throughout the area. Using these mist nets, birds are captured and are banded with a numbered USFWS aluminum band. Data is recorded that indicate species, age, breeding status, and condition of each bird. Covered bird species such as Sonoran yellow warbler, Arizona Bell's vireo, and summer tanager are also color banded in unique combinations that allow observers to identify individual birds. Resighting efforts help establish residency of these covered species during the breeding season.