ATTACHMENT "C" 9/16/97

**Gila Valley Willow Flycatcher Study: Summary of 1997 Season**

Five sites were chosen as focal patches for this study: one on Forest Service property upstream from the U-Bar Ranch, and two stringers and two larger patches on the U-Bar itself. Within the 5 patches, breeding birds were surveyed approximately every 3 days, and nest searches were conducted for all species. In addition, searches were conducted for flycatcher nests in non-focal plots on the U-Bar every 1-2 weeks.

Avian Community Structure

Nests: a total of 267 nests were found of 30 species in the 5 focal patches. Ten or more nests were found for each of 6 species: Mourning Dove (67), Willow Flycatcher (58), Yellow-breasted Chat (30), Lesser Goldfinch (15), Western Wood Pewee (12), and Black-chinned Hummingbird (10). An additional 34 flycatcher nests were located in 10 non-focal patches.

Cowbird Parasitism: Two species, Yellow-breasted Chats and Yellow Warblers, were heavily parasitized by Brown-headed Cowbirds. Of 23 nesting attempts by Chats for which we know the outcome, 11 (48%) were parasitized by cowbirds. In some chat nests, 4 of 5 eggs were of cowbirds. Six of 10 (60%) nesting attempts of known outcome by Yellow Warblers were parasitized. This figure may be inaccurate because we were unable to monitor adequately most warbler nests due to their height (mean = 9.7 m). Other species parasitized by Cowbirds were Vermilion Flycatcher, Plumbeous Vireo, Summer Tanager, Lucy's Warbler, Lesser Goldfinch, Spotted Towhee, Abert's Towhee, and Blue Grosbeak.

Willow Flycatcher Breeding

Nests: A total of 92 flycatcher nests were found. The majority of nests were in boxelder (84%), with lesser numbers in willows (all species 5%), Russian olive (9%), Arizona alder (1%) and salt cedar (1%). Mean nest height was 7.0 m, and ranged from 1.2 to 16.4 meters. Nests in boxelder were significantly higher on average (7.7 m) than those in other species (3.2 m).

Nesting Success: Because most nests were too high to monitor directly (by visual inspection using mirror poles), and because we limited the frequency of nest visits to minimize disturbance to breeding birds, we have incomplete data for many nests. Therefore, for the following summary statistics, a range of possible values is presented based on different assumptions.

For the 68 flycatcher nests of known outcome, nesting success (percent of nests that fledged at least one young) was relatively high -- 53%. If all 24 nests of unknown outcome are assumed to have failed, the minimum nesting success of this population in 1997 would be 39% (fairly typical for a small migratory songbird). The corresponding maximum nesting success rate would be 65%. Overall, a minimum of 78 fledgling flycatchers were produced from nests on the U-Bar and Forest Service sites in 1997.

Cowbird Parasitism: The exact frequency of cowbird parasitism on flycatchers is unknown for reasons outlined above. We were able to examine the contents of 34 nests. Of these, 5 contained cowbird eggs (14.7%). Three of the five were immediately abandoned after receiving a cowbird

egg. Anecdotal information suggests low nests were more heavily parasitized than higher nests, and those we could see into were low nests. Therefore the overall rate of nest parasitism is probably lower than the observed rate. Three nesting attempts were known to produce cowbird fledglings; for two of these no nest was found.

Nest Site Characteristic Mensuration

Vegetation was measured at 72 flycatcher nests and 29 null points (grid points in focal plots $\geq$100ft from an active nest or singing perch). At each point we quantified plant species composition and abundance, canopy height, canopy and ground cover, and vertical foliage density. Analyses will determine (1) if and how flycatcher nest sites differ from unused (null) sites within occupied plots; and (2) if flycatcher breeding success is correlated with measures of habitat structure.

Future Directions

If adequate funding is available, future research will:

- continue surveying avian community in focal patches.
- increase flycatcher monitoring efforts to obtain better estimates of nesting success and parasitism.
- band adult and fledgling flycatchers.
- address landscape-level questions of habitat use by flycatchers, by comparing physical and vegetative characteristics of occupied and unoccupied riparian patches.