Where riparian vegetation becomes established along irrigation systems, it is often cleared away at regular intervals. Where it is not, it is sometimes because an artificially created riparian/wetland habitat is being maintained as mitigation or compensation for loss of natural riparian habitat elsewhere.

The Service recognizes that in some local areas in recent decades, riparian habitat has been rehabilitated or increased, not decreased. However, the Service accepts the consensus of literature cited in this rule that the overall trend continues to be one of habitat loss.

Hastings and Turner (1965) and Bahre (1991) noted that riparian habitats were already significantly altered by the turn of the last century. Hastings and Turner (1965) also noted that all major watercourses in southern Arizona suffered entrenchment and became more ephemeral in flow in approximately 1890. Land use practices that had already affected riparian habitats in this Arizona-Mexico border region included livestock grazing, woodcutting, and water diversion; climatic changes may also have contributed. The differences between the historic and more recent photographs show some riparian recovery, concurrent with reductions in livestock stocking levels from their highs in the late 1800's. No data, or elaboration, were presented to support statements that riparian regeneration is approaching 1000 percent in southeastern Arizona.

As this final rules discusses, E. t. extimus sometimes nests in tamarisk, but does so at lower densities, and apparently at lower success rates than in native vegetation (Hunter et al. 1988, Sogge et al. 1993, Muiznieks et al. 1994). Therefore, tamarisk invasion likely represents replacement of native habitat with lower-quality habitat, rather than an increase in habitat availability. Only in a few unique situations does tamarisk truly represent "new" habitat. For example, in the Grand Canyon flycatchers nest in a "new" riparian habitat, dominated by tamarisk (Carothers and Brown 1991). This new riparian habitat became established in the historic flood-scour zone of the Colorado River, after construction of Glen Canyon Dam eliminated annual scouring floods. However, flycatchers nest in this area in low numbers (Brown 1991, Sogge and Tibbitts 1992, Sogge et al. 1993) and have low nesting success. It is noteworthy that by forming Lake Powell, Glen Canyon Dam also inundated habitat in Glen Canyon. The southwestern willow flycatcher was

described as a common nester in Glen Canyon prior to inundation (Behle and Higgins 1959, Behle 1985), indicating that this historic habitat was of higher quality than the new habitat in Grand Canyon.

*Issue 4:* The flycatcher has always been a rare bird, so its rarity now is no change from historical situations; historical specimens are few, indicating the bird was always rare; population data are insufficient to show decline; population data are suspect, developed by parties with agendas of land control/ acquisition; the flycatcher is not declining in all areas; historical taxonomic questions may confuse population trend information; accuracy or existence of population trend data for the last 50 years is questionable; population sampling techniques were not discussed; these could bias trend studies; population data are incomplete; the proposal relies on data reflecting loss of habitat rather than comprehensive population trend analysis; there are no recent collections of E. t. extimus from southern Arizona riparian areas.

*Service Response:* The Service agrees that the flycatcher has probably always been sparsely distributed, as a function of the sparse distribution of its wetland habitat in a predominantly xeric region. However, sparse distribution and rarity are not necessarily equivalent. At individual locales the flycatcher may occur in considerable numbers, as indicated by Herbert Brown's collection of 36 nests near Yuma in 1902, and the persistence of several populations of considerable numbers (30-40 pairs) in relatively small areas like the Kern River Preserve in California (Harris et al. 1986, Whitfield 1990). Although E. t. extimus habitat is rare, where it is present nesting pairs may occur in relatively high densities. This phenomenon has caused some authors to describe *E. t. extimus* as something of a colonial nester (e.g., Unitt 1987).

Regarding the lack of historic or recent specimens available from various parts of the bird's range, the Service notes that specimen collection is largely a function of collecting activity, not simple presence of the subject.

The Service agrees that, as with many non-game species, population trend data are incomplete. No wide scale, and few local studies have been funded or undertaken to track this species through time. Comprehensive, long-term population data are not necessarily required for making listing determinations. Rather, these decisions often rest upon data on loss and modification of habitat and other threats, which are reasonably assumed

to result in population declines. In many cases, population declines are inferred from decline in habitat availability. However, in this and other listing determinations, the Service seeks to measure such inference against whatever population trend data are available. Regarding concerns over sources of these data, the Service endeavors to verify accuracy and credibility of data. The reports published by government agencies, academic institutions, and professional journals on which this determination is based are accepted as credible. To interpret population trends in the light of changing taxonomic status, the Service considered all information for willow flycatchers in the current range of E. t. extimus to be relevant.

Issue 5: Livestock grazing is not a threat to *E. t. extimus* or its habitat; Montgomery et al. (1985) found 53 singing birds in a grazed area in New Mexico; on Marine Corps Base Camp Pendleton, E. t. extimus is increasing where sheep graze; nest disturbance by cattle is unsubstantiated; southwestern flora evolved with large grazing ungulates; the proposed rule lacks examples of flycatcher status improving with reduction in livestock or improved livestock management; E. t. extimus is not improving in areas with no grazing; the proposed rule equates any livestock grazing with overgrazing, and fails to distinguish between overgrazing and well-managed grazing; proper livestock management is compatible with healthy riparian habitat; some level of livestock grazing is compatible with/necessary for healthy riparian ecosystems; willows are brush, which cattle don't eat, but cattle are blamed for both brush encroachment and brush destruction; cattle trample stream banks, which allows water to escape, creating more riparian habitat; livestock grazing prevents urbanization of land, which would have a greater impact on riparian habitats.

Service Response: The proposed and final rules discuss overuse by livestock as a threat to *E. t. extimus*, through impacts on riparian habitat. The Service recognizes that what constitutes "overuse" varies with differing riparian ecosystems, elevation, type of livestock, seasonality of use, and other factors. The Service believes that some livestock grazing regimes are likely to be found compatible with rehabilitation and maintenance of *E. t. extimus* habitat.

Montgomery *et al.* (1985) did not determine whether the willow flycatchers they detected on grazed land were resident *E. t. extimus* or migrating individuals of other subspecies. Further, neither grazing intensity nor nesting