will probably remain an imminent threat until habitat rehabilitation is accomplished. The Service acknowledges that cowbird control should be an immediate, high priority recovery action. However, cowbird control is a "stop-gap" action. Rehabilitating riparian habitat to make E. t. extimus and other riparian birds less susceptible to cowbird parasitism will be necessary for a long-term solution. Ultimately, the ranking of threats in order of severity is not relevant to the listing question. It is because a number of often interdependent threats exist that listing E. t. extimus is necessary. Ranking threats in order of severity and addressing them accordingly will be part of the recovery process.

Issue 16: Willow flycatchers nesting in the northern States, Alaska, and Canada are subspecies other than E. t. extimus. The boundaries of the breeding range of *E. t. extimus* should be expanded to include the Santa Ynez River in California, and the Green and Colorado River systems in west-central Utah; E. t. extimus does not occur in Utah, Colorado, or the Carson National Forest in northern New Mexico; the willow flycatcher is common in the northern States, Alaska, Canada, most of the U.S., Mexico and Panama; caution should be exercised in defining range limits of the subspecies, including elevational limits.

Service Response: Two primary

authorities (Unitt 1987, Browning 1993) provide the range limits of *E. t. extimus* identified in this rule (see Figure 1). The Service also considered other information, such as historical nesting records, habitat characteristics, and proximity to neighboring populations of *E. t. extimus* or other willow flycatcher subspecies. Using this information, the Service provisionally defines the northwestern limit of the subspecies' range to be the Santa Ynez River in California. Willow flycatchers nesting along the Santa Ynez River occupy lowland riparian habitat similar to other coastal California locations of E. t. extimus, and few willow flycatcher (i.e., E. t. brewsteri) nesting locales are known in coastal California for a considerable distance north of the Santa Ynez River.

Browning (1993) found no evidence of intergrades between *E. t. extimus* and *E.* t. adastus in Utah. The northern limit of E. t. extimus in Utah is believed to correspond closely to the area comprising the following counties: Garfield, Kane, San Juan, Washington, and Wayne. This area takes in stretches of riverine riparian habitat in southern Utah that have historical records of

flycatchers and that still have potential willow flycatcher habitat.

The Service recognizes that taxonomic questions may arise concerning flycatchers occupying some high-elevation locales within the range of *E. t. extimus*. Because the genetic relatedness of willow flycatchers breeding at some high elevation areas, such as the White Mountains of Arizona, may be substantial, willow flycatchers in those locales should be considered E. t. extimus until further research demonstrates otherwise. Protection of these breeding groups could be critical for population recovery, immigration, and exchange of genetic material within a highlyfragmented landscape.

Issue 17: It is inappropriate to use data from E. t. brewsteri and E. t. adastus to support listing E. t. extimus; information cited on livestock damaging nests comes from other subspecies.

Service Response: The Service carefully considered the propriety of using information on other willow flycatcher subspecies in evaluating the listing question for E. t. extimus. In applying such information, the Service considered ecological similarities and dissimilarities between the subspecies. The Service believes that data from other subspecies are applicable in some cases, but not others. The Service has identified which subspecies provided data sources throughout the proposed and final rules. The phenomenon of livestock damaging nests and/or contents through physical contact is known for willow flycatcher subspecies other than E. t. extimus. This threat was noted to recognize that the potential exists, where nests occur low enough in vegetation or in other vulnerable locations, that livestock, humans, or other animals may contact them or the nest plant.

Issue 18: Habitat in California was lost to urbanization, not livestock; the proposed rule had inadequate discussion of urban and suburban development as a threat; urban development is not a threat to some populations.

Service Response: Loss and modification of the riparian habitat of E. t. extimus is the result of numerous factors, discussed in depth in this rule. Not all these factors have affected all riparian habitats, and some rare habitats remain unaffected. Further, the degree to which these factors influence riparian habitat varies across the landscape. Urban and suburban development has certainly impacted some *E. t. extimus* habitats. These impacts may result from direct encroachment and channelization of riparian habitats, as in coastal

southern California and central Arizona. Urban and suburban development also increase demands on river systems for water and hydropower. Thus, expanding urban centers can result in dewatering or alteration of riparian systems tens or hundreds of miles away. For example, the water and power demands of Los Angeles, Phoenix and Las Vegas result in effects on the Colorado River hundreds of miles from any of these cities.

Issue 19: The primary threat to *E. t.* extimus is loss of wintering habitat in Central and South America, or other factors along migration routes; the proposed rule contained insufficient information on migration studies; protecting breeding grounds is not logical, because *E. t. extimus* spends eight months of the year in migration or

on wintering grounds.

Service Response: Although tropical deforestation possibly may restrict wintering habitat of the willow flycatcher, the best available current information on the subject suggests otherwise. The limited data on willow flycatcher wintering habitat indicates that this species uses "* * * brushy savannah edges and second growth" in Costa Rica (Stiles and Skutch 1989); in Panama it has been documented in "shrubby areas" (Ridgely 1981); and in South America it has been documented in ''* * * shrubby clearings, pastures, and lighter woodland'' or ''* * * on islands with early successional growth" (Ridgely and Tudor 1994). Given existing land use practices in Central and South America, which are characterized by conversion of oldgrowth forested habitat to agricultural and second-growth habitats, few if any of the winter habitat types in which willow flycatchers have been documented should currently be in jeopardy.

Issue 20: The Service cannot define nesting habitat; habitat requirements are poorly understood; the proposed rule's description of nesting habitat is flawed and inadequate to direct management; the minimum patch size necessary to support a nesting pair of E. t. extimus is 1 to 1.5 hectares.

Service Response: The Service believes the proposed rule and this final rule accurately compile and summarize the existing information on *E. t. extimus* nesting habitat, and that information is sufficient to identify, conserve, and recover the riparian ecosystem of which E. t. extimus is a part. Habitat patches occupied by E. t. extimus vary somewhat in size, floristic composition, vegetation structure, and type of wetland. Therefore, the Service believes it is inappropriate and inaccurate to