strongly endorses the concept of the subspecies * * * and we wish to make it clear that the omission of separate listings of subspecies in this edition is not a rejection of the validity or utility of this systematic category * * *."

The Service noted McCabe's (1991) consideration of the willow and alder (*E. alnorum*) flycatchers as a single species, and his reluctance to recognize willow flycatcher subspecies. McCabe (1991) provides a thorough review of the history of E. alnorum and E. traillii taxonomy, and the questions of ecological, morphological, and songtype distinction on which this taxonomic evaluation has been based. However, the Service agrees with Sedgwick's (1993) comments and McCabe's own observation that McCabe (1991) contrasts with the majority opinion regarding taxonomy of the willow and alder flycatchers.

After examining 305 study skins, Unitt (1987) found that while four subspecies (E. t. traillii, E. t. adastus, E. t. brewsteri, and E. t. extimus) could be tentatively separated by the "75 percent rule" using overall size (wing and tail lengths and their ratios to one another), these criteria were not satisfactorily conclusive. However, he found that the subspecies could be satisfactorily distinguished, under the "75 percent rule," using color, wing formula (relative lengths of primary wing feathers), or both. Browning (1993) examined 270 specimens and found that all four subspecies, and a fifth (E. t. campestris) were distinguishable by color.

The Service acknowledges that taxonomy of *E. traillii* races continues to pose questions and may be revised in the future. The Service has determined that *E. t. extimus* is a sufficiently distinct entity to be listed under the Act at the very least as a distinct vertebrate population [50 CFR § 424.02(k)]. However, the Service accepts the majority opinion that *E. t. extimus* is a valid subspecies and lists it as such.

The Service considers taxonomic distinctness in assigning priorities for species listings, but not in determining whether or not to list species. The Act authorizes listing of species, subspecies, or distinct population segments, all of which have ecological significance.

Issue 2: The southwestern willow flycatcher is not a riparian obligate species. It also occurs in open prairie woodlots, dry and brushy pastures, and brushy fields or slopes. No surveys of dry habitats have been done to prove riparian obligacy. The southwestern willow flycatcher does not "invariably" nest near surface water.

Service Response: The Service is unaware of any study, report, or species account that describes E. t. extimus as anything but a riparian obligate. No commenter provided data, studies, or reports indicating that E. t. extimus nests outside riparian habitats. Several commenters cited field guides which describe the willow flycatcher (all subspecies) as occurring "* * * in drier situations (than the alder flycatcher) * * *'' (Peterson 1990), "* * * on brushy slopes * * *" (Robbins et al. 1983), and "* * * dry, brushy upland pastures * * *" (National Geographic Society 1990). The Service believes that field guide species accounts do not constitute the best available scientific information on biology, ecology or habitat requirements. Field guide accounts tend to be brief and generalized, and in this case represent habitat use of other willow flycatcher subspecies, which occur in more mesic regions. Similarly, Barlow and McGillivray's (1983) description of willow flycatchers (E. t. *campestris/traillii*) selecting '** * a more xeric upland habitat * * *'' in Ontario. Canada. is not considered relevant to habitat selection of E. t. extimus in the desert Southwest. In the wetter climates of the north, upper midwest, and northeast, habitat conditions of moist soil or surface water, supporting thickets of deciduous shrubs and trees, are not restricted to riparian areas. However, in the arid Southwest where E. t. extimus occurs, these conditions are limited to riparian areas, usually in profound contrast to the adjacent and prevailing desert conditions. Various authors (e.g., King 1955) have noted that while willow flycatchers may nest away from riparian areas in the north and east, in arid regions (the ranges of E. t. brewsteri and E. t. extimus particularly) the species is restricted to riparian habitats. Regarding the presence of surface water during the breeding season, new information was provided indicating that some nest sites have surface water in close proximity early in the breeding season, which recedes underground by the end of the breeding season. At these sites, the water table remains at least high enough to sustain riparian vegetation. The Service is unaware of any surveys performed in non-riparian habitats specifically to verify the absence of nesting E. t. extimus. However, the Service relied on local, State, and regional species accounts of distribution and habitat use, none of which describe occurrence outside of riparian habitats.

Issue 3: The loss and modification of southwestern riparian habitat is

overstated, poorly documented, and does not constitute a threat to the flycatcher; the statement that 90 percent loss of riparian habitat has occurred is inaccurate and an exaggeration; riparian habitat has not decreased, but increased as a result of diversions, irrigation, etc; habitat has increased, not decreased, in local area(s) over the past 20 years; riparian regeneration is approaching 1,000 percent in southeastern Arizona; Hastings and Turner (1965) show that cottonwood riparian habitat has increased in southeastern Arizona; the upper San Pedro River is recovered, not "unsuitable and unoccupied" as the Service claimed; because tamarisk has increased, and E. t. extimus uses tamarisk, tamarisk invasion does not constitute modification of habitat, but expansion of habitat; population declines in the past 20 years are concurrent with improved riparian habitats, so no correlation exists between trends in habitat and populations; the proposal fails to support claims that urban development, agriculture, and livestock grazing are harmful to the flycatcher.

Service Response: The Service has determined that the documentation of loss and modification of southwestern riparian habitats, cited in this final rule, is adequate. Regarding the "90 percent loss and modification" statement, the proposed rule stated that "* * * as much as 90 percent * * *" (emphasis added) has been lost or modified. The actual percentage lost or modified is not expected to be consistent across the region, but should vary with elevation, rainfall, geographic area, relative size of drainage system, and severity of impacts. Loss and modification may be lesser at higher elevations, where precipitation is greater and evaporation less. In most major lower elevation desert riparian systems, loss or modification may in fact be near 100 percent, e.g., the lower Colorado, lower Gila, lower Rio Grande, and lower Salt Rivers. Because "modification" includes alterations in flow regimes, channel confinement, changes in water quality, and floristic makeup of riparian systems, the Service believes it is not a misrepresentation to state that up to 90 percent of southwestern riparian ecosystems have been lost or modified.

Commenters stating that riparian habitat has not decreased, but increased as a result of diversions and irrigation, presented no supporting information. The Service recognizes that some diversions, particularly unmaintained irrigation ditches, sometimes support riparian vegetation. However, the Service believes diversion and irrigation result in a net loss of riparian habitat.