1. **Species:** Southwestern Willow Flycatcher *(Empidonax traillii extimus)*

2. **Status:** Table 1 summarizes the current status of this species or subspecies by various ranking entity and defines the meaning of the status.

**Table 1.** Current status of *Empidonax traillii extimus*

| Entity | Status | Status Definition |
|---|---|---|
| NatureServe | G5 T2 | Imperiled—At high risk of extinction or elimination due to very restricted range, very few populations, steep declines, or other factors. |
| CNHP | SNA | Not assessed at the state level |
| Colorado State List Status | SE | State Endangered |
| USDA Forest Service | ESA Section 7 | ESA Section 7 consultation requirement for activities that may affect the species. |
| USDI FWS[b] | FE | Federally listed as Endangered |
| USDI FWS Critical Habitat | None | No occurrence of designated critical habitat within the planning area. |

[a] Colorado Natural Heritage Program.
[b] US Department of Interior Fish and Wildlife Service.

The 2012 U.S. Forest Service Planning Rule defines Species of Conservation Concern (SCC) as "a species, other than federally recognized threatened, endangered, proposed, or candidate species, that is known to occur in the plan area and for which the regional forester has determined that the best available scientific information indicates substantial concern about the species' capability to persist over the long-term in the plan area" (36 CFR 219.9). This overview was developed to summarize information relating to this species' consideration to be listed as a SCC on the Rio Grande National Forest, and to aid in the development of plan components and monitoring objectives.

## 3. Taxonomy

Four subspecies commonly are recognized in North America: *E. t. adastus*, ranging across the northern Rocky Mountains and Great Basin; *E. t. brewsteri*, found west of the Sierra Nevada and Cascade Mountains along the Pacific Slope; *E. t. extimus*, the Southwestern Willow Flycatcher, which breeds across the Southwest; and *E. t. traillii*, ranging east of the northern Rocky Mountains. Paxton et al. (2008) noted interbreeding/gradation zones in the boundary area between *E. t. extimus* and *E. t. adastus*. Their results indicate that willow flycatchers potentially occurring in and around the planning area contain low levels (i.e. 20%-30%) of dominant genetic traits found in *E. t. extimus* (Figure 1).

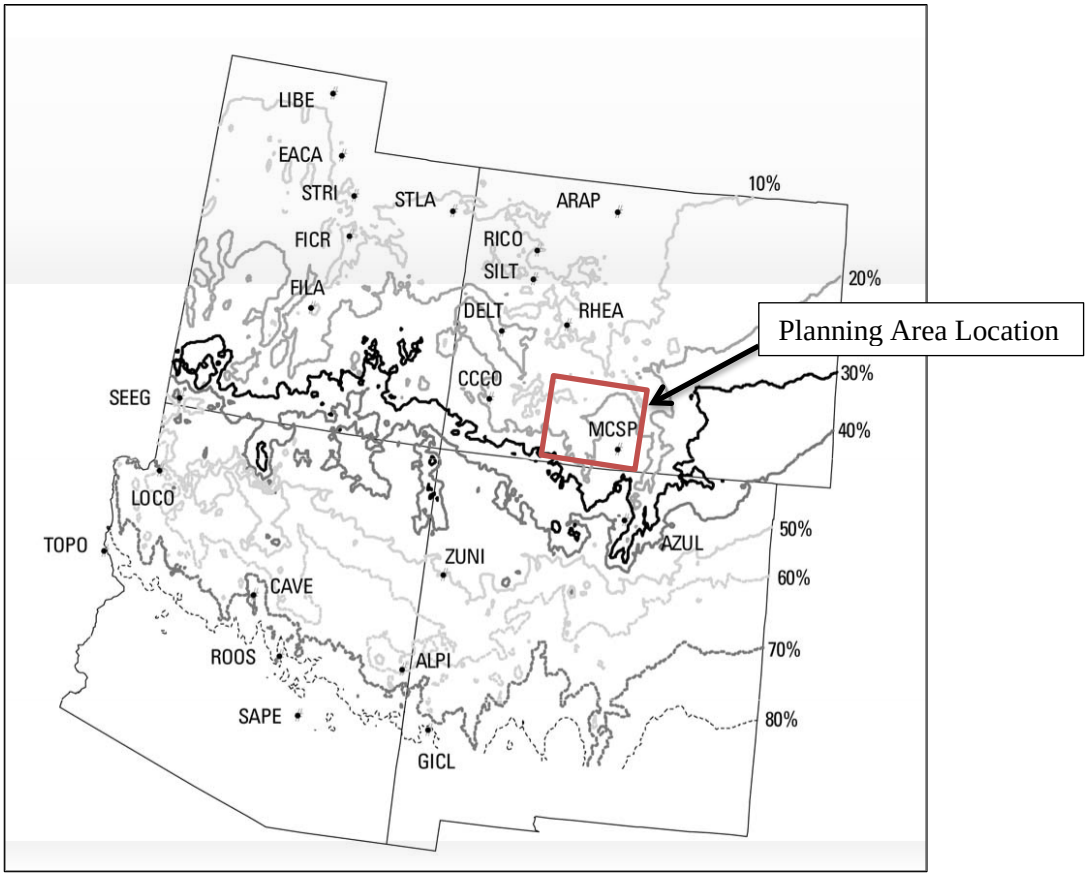


**Figure 1. Contours indicating the predicted probability of a breeding site having a C-group haplotype (dominant in *E. t. extimus*) based on latitude and elevation (shown in 10% increment contours). Each contour line represents 10% increment probabilities of encountering a C-group haplotype from 10–90% (source: Paxton et al. 2008).**

## 4. Distribution, abundance, and population trend on the planning unit [12.53.2,3,4]:

The breeding range of the Southwestern Willow Flycatcher includes southern California, Arizona, New Mexico, southwestern Colorado, and extreme southern portions of Nevada and Utah: specific range boundaries are delineated in the subspecies' recovery plan (USDI Fish and Wildlife Service 2002).

Current information suggests that important flycatcher habitat does occur in certain locations in the San Luis Valley in association with willow-dominated riparian and wetland communities on the valley floor. Although it is recognized that the San Luis Valley occurs within a gradation zone between the *E. t. adastus* and *E. t. extimus* subspecies (Paxton et al. 2008), the USFWS at this time considers all willow flycatchers in the San Luis Valley to be the *E. t. extimus* subspecies.

In 2008, the first (and only) detection of an individual willow flycatcher on the Rio Grande National Forest occurred during surveys of adjacent BLM lands. This detection occurred during the early survey period (June 9, 2008) approximately 5 meters from the boundary of adjacent Colorado State Land Board property. No willow flycatchers have been noted in this area or in any other location on Forest lands since that time despite. The Rio Grande NF has conducted habitat and presence surveys for the southwestern willow flycatcher since 2003. Approximately 1,762 acres of suitable and 947 acres of potential willow flycatcher (WIFL) habitat have been

identified on the Forest to date (2,709 acres total) (see Figure 1). Approximately 1,428 acres (81%) of the suitable habitat and 93 acres (10%) of the potential habitat has received species protocol surveys for at least two consecutive years. As of the end of the 2014 field season, mapping efforts indicate that approximately 81-85% of the potential habitat on the Forest has been evaluated (Ghormley 2015).

Due to a general lack of observations and breeding occurrence, no trend in the planning area is reported.

**Table 2. Known Occurrence Frequency within the Planning Area**

| | |
|---|---|
| **Known Occurrences** | 1 |
| **Year Last Observed** | 2008 |

**5. Brief description of natural history and key ecological functions [basis for other 12.53 components]:**

Southwestern willow flycatchers are strongly territorial. Flycatcher territories are often clumped together, rather than spread evenly throughout a habitat patch. Territory size varies greatly, probably due to differences in population density, habitat quality, and nesting stage. Estimated breeding territory sizes generally range from approximately 0.1 ha to 2.3 ha (0.25-5.7 ac), with most in the range of approximately 0.2 - 0.5 ha (0.5-1.2 ac).

The flycatcher builds a small open cup nest. Typical nest placement is in the fork of small-diameter (e.g., #1 cm or 0.4 in), vertical or nearly vertical branches. Occasionally, nests are placed in down-curving branches. Nest height varies considerably, from 0.5 m to 18 m (1.6 to 60 ft), and may be related to height of nest plant, overall canopy height, and/or the height of the vegetation strata that contain small twigs and live growth. Most typically, nests are relatively low, e.g., 2 to 7 m (6.5 to 23 ft) above ground.

**6. Overview of ecological conditions for recovery, conservation, and viability [12.53 7, 9?, 10, 11, 12]:**

The San Luis Valley encompasses the northernmost recovery unit identified by the U.S. Fish and Wildlife Service for the southwestern willow flycatcher (USDI Fish and Wildlife Service 2002). In the Final Rule, critical habitat was designated on five separate portions of the Rio Grande and Conejos River in the south portion of the San Luis Valley on BLM and federal refuge lands (78 FR 343-534, January 3, 2013). None of the designated critical habitat occurs on National Forest System land.

(1) Primary Constituent Element 1—Riparian vegetation. Riparian habitat along a dynamic river or lakeside, in a natural or manmade successional environment (for nesting, foraging, migration, dispersal, and shelter) that is comprised of trees and shrubs (that can include Gooddings willow, coyote willow, Geyer's willow, arroyo willow, red willow, yewleaf willow, pacific willow, boxelder, tamarisk, Russian olive, buttonbush, cottonwood, stinging nettle, alder, velvet ash, poison hemlock, blackberry, seep willow, oak, rose, sycamore, false indigo, Pacific poison ivy, grape, Virginia creeper, Siberian elm, and walnut) and some combination of:

(a) Dense riparian vegetation with thickets of trees and shrubs that can range in height from about 2 to 30 m (about 6 to 98 ft). Lower-stature thickets (2 to 4 m or 6 to 13 ft tall)

are found at higher elevation riparian forests and tall-stature thickets are found at middleand lower-elevation riparian forests;

(b) Areas of dense riparian foliage at least from the ground level up to approximately 4 m (13 ft) above ground or dense foliage only at the shrub or tree level as a low, dense canopy;

(c) Sites for nesting that contain a dense (about 50 percent to 100 percent) tree or shrub (or both) canopy (the amount of cover provided by tree and shrub branches measured from the ground);

(d) Dense patches of riparian forests that are interspersed with small openings of open water or marsh or areas with shorter and sparser vegetation that creates a variety of habitat that is not uniformly dense. Patch size may be as small as 0.1 ha (0.25 ac) or as large as 70 ha (175 ac).

(2) Primary Constituent Element 2— Insect prey populations. A variety of insect prey populations found within or adjacent to riparian floodplains or moist environments, which can include: flying ants, wasps, and bees (Hymenoptera); dragonflies (Odonata); flies (Diptera); true bugs (Hemiptera); beetles (Coleoptera); butterflies, moths, and caterpillars (Lepidoptera); and spittlebugs (Homoptera).

7. **Key ecosystem characteristics and ecological conditions for recovery, conservation, and viability**:

Habitat Definitions: During habitat surveys, the Forest has ground-truthed and classified habitat as "Suitable", "Potential" or "Unsuitable" (ie. non-habitat) based on the descriptions in the SWFL Recovery Plan (USDI Fish and Wildlife Service 2002) and an agreement with the U.S. Fish and Wildlife Service regarding the minimum habitat characteristics to consider during SWFL surveys. Habitat descriptions prior to 2011 are as follows:

Suitable: River channels are wide and shallow with a well-defined floodplain and a broad valley. Streams are slightly entrenched with well-defined meanders and riffle/pool bed features. Gradients are less than one percent. Quiet water dominates, as in backwaters, pools, beaver ponds or non-riffle stream stretches. Vegetative communities can be dominated by several willow species, young cottonwood, alder or introduced species such as salt cedar and Russian olive. Associated woody species may be present. The minimum patch size requiring surveys for Section 7 consultation is 30 feet X 30 feet X 5 feet high. Above 8,500 feet, only patches 5 acres are considered suitable. The largest patches of willow will have the greatest likelihood of attracting willow flycatchers.

The patches may be floristically diverse or homogeneous. The common theme among the sites is sufficient width to the patch to provide "interior" or non-edge habitat. Patches form dense thickets of shrubs and trees with contiguous cover except over water. The height of the patch must be sufficient to provide stem widths adequate for secure nest placement.

Potential: Potential habitat includes riparian that does not currently provide the characteristics of suitable habitat but has the potential of attaining them in the foreseeable future. Potential sites may include habitat such as a stand of young willow that currently lacks the density or size needed for suitable habitat. Potential habitat can be previously suitable habitat rendered

unsuitable by events such as a severe flood, or human activities such as unmanaged livestock grazing.

Unsuitable (ie. Non-Habitat): Unsuitable habitat includes riparian that does not meet the criteria listed above as suitable or does not have the potential to become suitable habitat. Examples of unsuitable habitat are narrow riparian vegetation confined by canyon walls, absent or inadequate stream flows, lack of standing water, high gradient streams, natural absence of woody shrub species and stands lacking appropriate vegetative cover and structure.

**8. Threats and Risk Factors**

The greatest historical factor in the decline of the Southwestern Willow Flycatcher is the extensive loss, fragmentation, and modification of riparian breeding habitat (U.S. Fish and Wildlife Service, 2002 summarized in Sogge et al. 2010). Large-scale losses of southwestern wetlands have occurred, particularly the cottonwood-willow riparian habitats historically occupied by this subspecies. Factors causing habitat loss and/or change include urban, recreational, and agricultural development, water diversion and impoundment, channelization, livestock grazing, and replacement of native habitats by introduced plant species (Marshall and Stoleson, 2000; USDI Fish and Wildlife Service 2002 summarized in Sogge et al. 2002).

While nest parasitism by brown-headed cowbirds has been documented to negatively impacts some southwestern willow flycatcher populations, especially at small and isolated breeding sites, it is highly variable and no longer considered among the primary rangewide threats to flycatcher conservation (USDI Fish and Wildlife Service 2002).

Within the planning area, the primary risk factors involve livestock grazing of riparian areas, recreational activities concentrated within riparian areas, and localized roads and other infrastructure that influence watershed health. The presence of beavers contributes to desired conditions for southwestern willow flycatchers (R. Ghormley, pers. comm. 2015).

**9. Key literature:**

Ghormley, R. 2015. Randy Ghormley, Forest Wildife Biologist, Rio Grande National Forest. Personal Communication.

Ghormley, R. 2015. Southwestern willow flycatcher and Mexican spotted owl survey and status report, 2014 field seasons. Unpublished Report. Rio Grande National Forest. 11p.

Paxton, E.H., M.K. Sogge, T.C. Theimer, J. Girard, and P. Keim. 2008. Using molecular genetic markers to resolve a subspecies boundary: the northern boundary of the southwestern willow flycatcher in the Four-corner States. U.S. Geological Survey Open-File Report 2007–1117, 20 p.

Sogge, M.K., Ahlers, D., and S.J. Sferra. 2010. A natural history summary and survey protocol for the southwestern willow flycatcher. U.S. Geological Survey Techniques and Methods 2A-10. 38 p.

USDI Fish and Wildlife Service. 2002. Southwestern willow flycatcher recovery plan. 210 p. + appendices.

## 10. Map of Known Occurrences and Suitable Habitat

Mapped suitable and potential WIFL totaling 2,709 in the planning area is displayed in Figure 1. Mapped occurrences in Figure 1 do not include the lone sighting within the planning area.

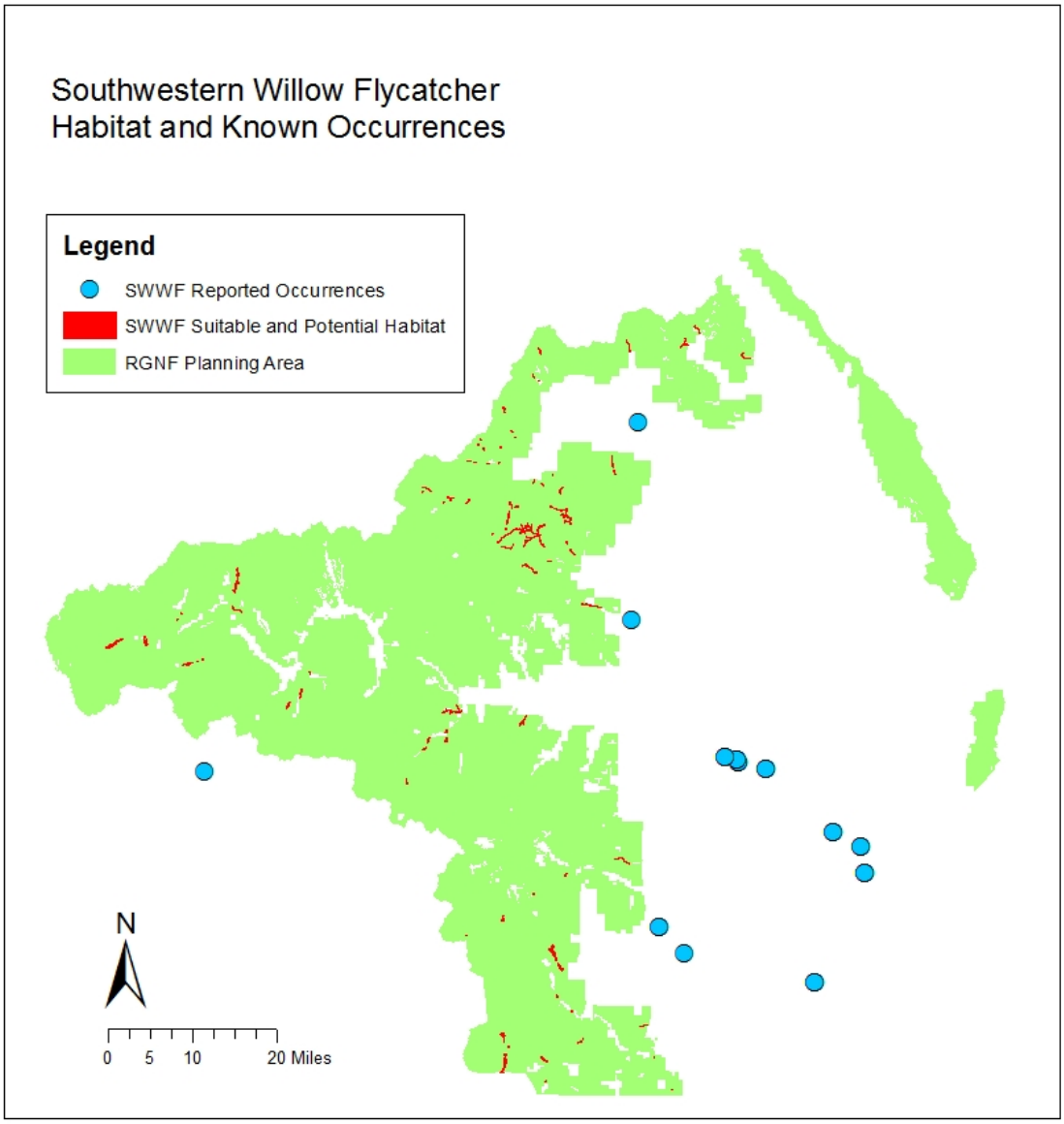


**Figure 2. Southwestern Willow Flycatcher Habitat and Known Occurrences.**