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TECHNICAL MEMORANDUM

DATE: November 6, 2019

TO: John Kuba, ConnectGen Operating LLC

FROM: Kori Hutchison and Andrea Chatfield, WEST, Inc.

RE: 2019 Supplemental Willow Flycatcher Habitat Assessment at the Fountain Wind Project, Shasta County, California

INTRODUCTION

In 2018, Western EcoSystems Technology, Inc. (WEST) performed an assessment of potential willow flycatcher (*Empidonax traillii*) habitat, and conducted surveys of the most suitable habitat, at the proposed Fountain Wind Project (Project) in Shasta County, California. The 2018 habitat assessment and surveys were conducted within development corridors provided by the Project proponent in May 2018, and the methods and results of that effort are presented in Thompson et al. (2018). During the 2018 survey effort, approximately 6.0 acres (ac; 2.4 hectares [ha]) of potentially suitable willow flycatcher habitat, representing about 0.2% of the Project's 2018 development corridors, were identified and surveyed during the breeding season. No detections of willow flycatchers were recorded during those surveys. In September 2019, the Project layout was amended, adding areas of proposed development that were not covered by the 2018 willow flycatcher habitat assessment and field surveys (Figure 1). As a result, in October 2019, WEST performed a supplemental desktop review and field verification of potential willow flycatcher habitat within these newly added development corridors. This memorandum serves as an addendum to the initial 2018 memorandum, describing the methods and results of the 2019 supplemental willow flycatcher habitat assessment at the Project.

SURVEY AREA

Survey corridors for the most current Project layout were provided by the Project proponent in a Geographic Information System (GIS) format on September 3, 2019. The survey corridors included areas that could be subject to direct impacts during Project construction. The survey corridors varied in size and included 300-foot (ft; 91-meter [m]) buffers of all areas of proposed infrastructure that may be subject to ground disturbance (e.g., newly proposed roads, roads that may be expanded, turbine pads, and underground collection lines). For the purpose of assessing

willow flycatcher habitat for most current Project layout, the 2019 development corridors were overlain onto the development corridors used in the 2018 habitat assessment to identify new areas of proposed development requiring additional evaluation (Figure 1). The 2019 Project layout includes approximately 1,605 ac (650 ha) which fall outside of the 2018 development corridors and were, therefore, not evaluated during the 2018 assessment (see Figure 1).

METHODS

Consistent with the 2018 assessment (Thompson et al 2018), the California Department of Fish and Wildlife's (CDFW's) Willow Flycatcher Habitat Model and examination of aerial imagery were used to conduct a desktop review of potential willow flycatcher habitat within the 2019 development corridors. This GIS-based model analyzes and compiles several remotely sensed GIS coverages to predict habitat suitability. Areas of modeled habitat occurring in the Project area were then buffered by 300 ft to ensure that the habitat assessment covered potential willow flycatcher territories located within 300 ft of the new development corridors. The 300 ft provided coverage that exceeds the average territory size (roughly 164 by 262 ft [50 by 80 m) of willow flycatchers in northern California (Bombay et al. 2003). Buffered habitat areas were then reviewed on aerial imagery to eliminate areas that were unsuitable (e.g., areas of early seral conifer forest away from streams). The remaining areas of modeled habitat considered potentially suitable were then overlaid onto the 2019 survey corridors in a GIS, which resulted in the identification of one additional area of potential willow flycatcher breeding habitat, totaling 5.6 ac (2.3 ha), within or adjacent to the 2019 development corridors that was not included in the 2018 desktop assessment (Figure 2).

A WEST biologist with experience assessing willow flycatcher habitat suitability then performed a field reconnaissance at the Project to evaluate this identified area of potentially suitable habitat, and to look for additional areas of potential habitat within 300 ft of new development corridors not predicted by the model. Criteria for inclusion as potential habitat, as defined by the CDFW model, included cover component (i.e., primary vegetative cover type), distance to perennial water, and species range (i.e., known species occurrences; Timossi et al. 1995).

RESULTS AND DISCUSSION

Based on the 2019 desktop assessment, only one area of modeled willow flycatcher habitat was identified within the newly added development corridors as potentially suitable habitat (Figure 2). However, following field reconnaissance, this area was determined to be located in a dry, upland area (Photo 1), and no additional areas visited during the field reconnaissance met the criteria for suitable willow flycatcher habitat. Consequently, no additional breeding surveys for willow flycatcher are warranted at this time, based on evaluation of the amended Project layout.

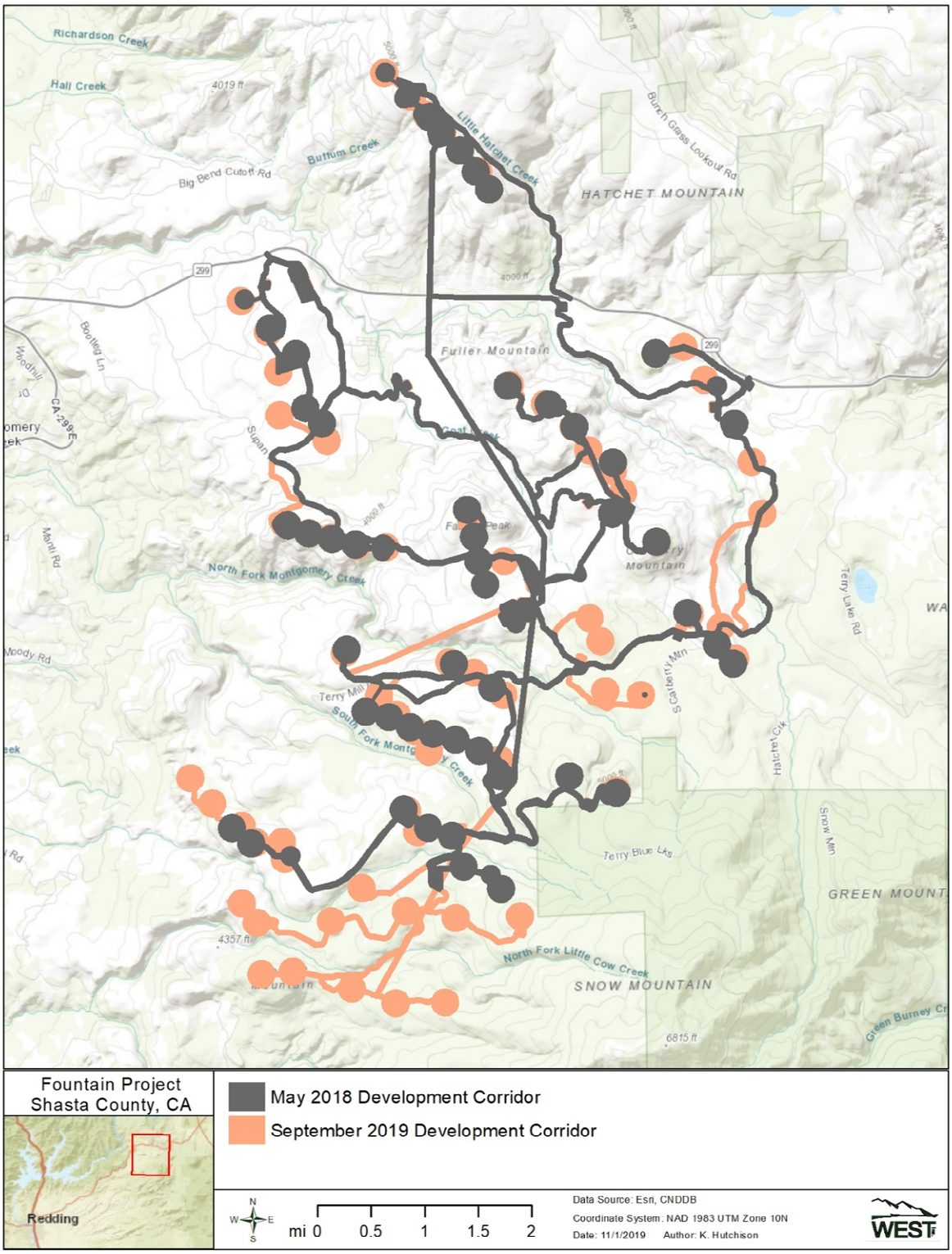

Figure 1. Proposed development corridors for the Fountain Wind Project in Shasta County, California as provided by the Project proponent in May 2018 and September 2019. Portions of the 2019 development corridor falling outside of the 2018 corridor are indicated in orange.

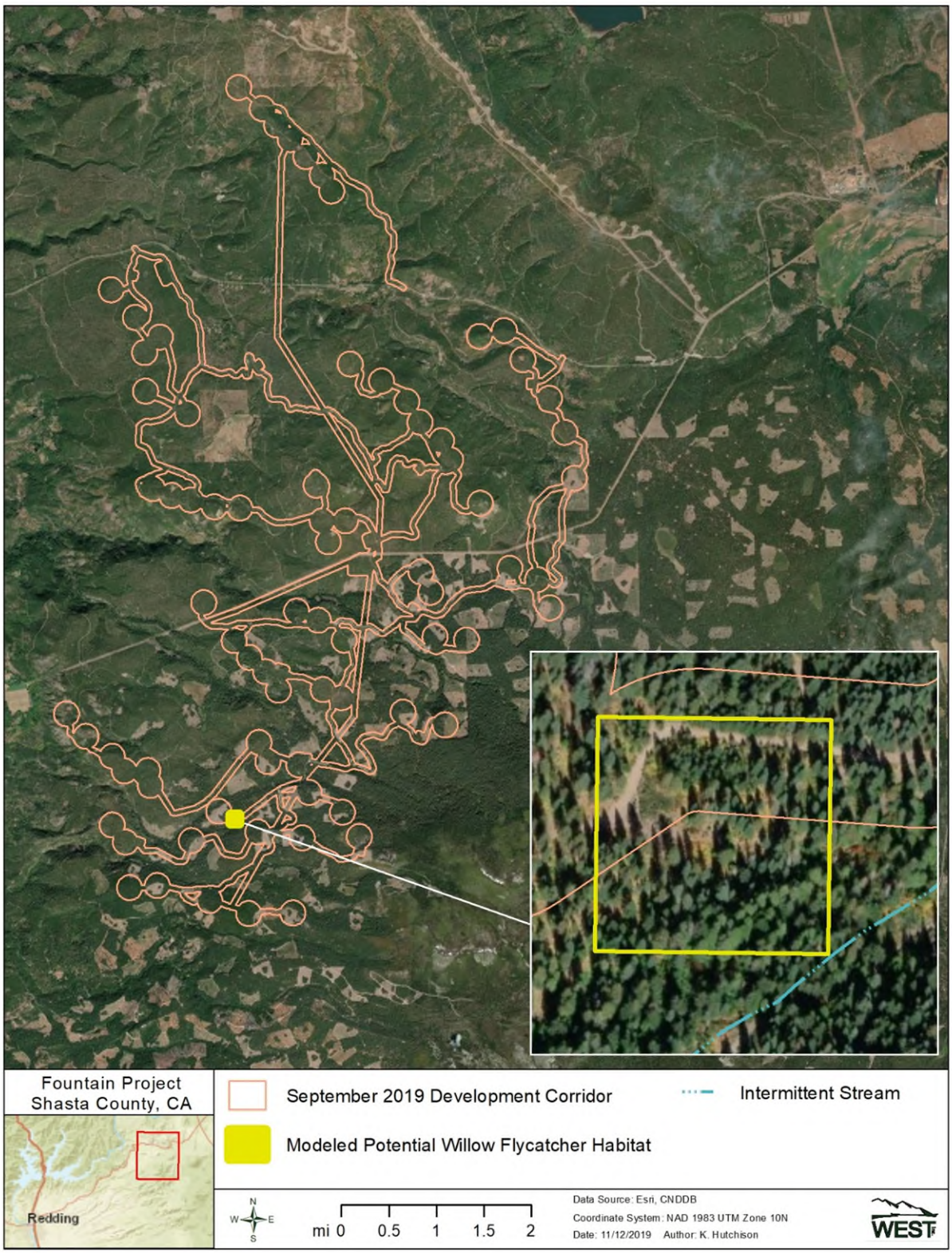

Figure 2. Area within the Fountain Wind Project identified as potential willow flycatcher habitat by the California Department of Fish and Wildlife's Willow Flycatcher Habitat Model in relation to the September 2019 development corridor.

Photo 1. Area within the Fountain Wind Project identified as potential willow flycatcher habitat by the California Department of Fish and Wildlife's Willow Flycatcher Habitat Model and evaluated during field reconnaissance.

Literature Cited

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Timossi, I. C., E. L. Woodard, and R. H. Barrett. 1995. Habitat suitability models for use with ARC/INFO: Willow flycatcher. California Department of Fish and Game, California Wildlife Habitat Relationships Program, Sacramento, California. Technical Report No. 26. 24 pp.